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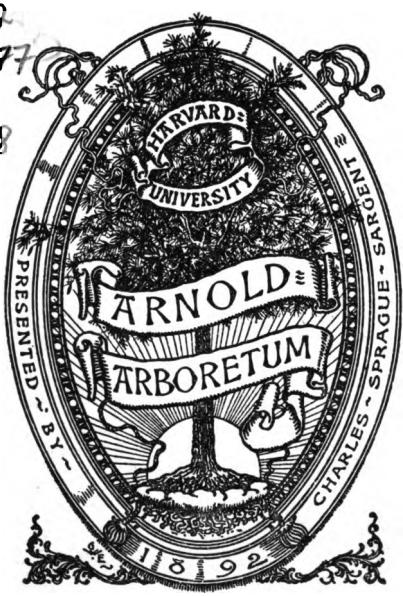

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WITHERING'S
BRITISH PLANTS.

THE

'LOWERING PLANTS AND FERNS

OF GREAT BRITAIN AND IRELAND,

ARRANGED ACCORDING TO THE LINNÆAN SYSTEM.

WITH

INSTRUCTIONS TO BEGINNERS, ILLUSTRATIVE FIGURES, A GLOSSARY, AND OUTLINE OF A NATURAL CLASSIFICATION.

COMPILED FOR POPULAR USE,

BY WILLIAM MACGILLIVRAY, LL.D.,

LATE PROFESSOR OF NATURAL HISTORY, AND LECTURER ON BOTANY, IN MARISCHAL COLLEGE AND UNIVERSITY, ABERDEEN.

ELEVENTH EDITION,

REVISED THROUGHOUT, AND ADAPTED TO THE PRESENT STATE OF BOTANICAL SCIENCE.

LONDON:

EDWARD LAW, (SUCCESSOR TO BALDWIN AND CO.),

ESSEX STREET, STRAND.

1863.

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Aug. 1, 1923

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TO THE EIGHTH EDITION

THE demand for an Eighth Edition of this work seems to sanction a belief on the part of its Editor that it has been found useful, and that, defective as it has ever been in some respects, it has answered the purpose for which it was compiled. The Editor is quite ready to allow that he might have been better qualified for the task undertaken by him; that he might have occasionally copied more judiciously and described more carefully; that the work might, with some advantages, have been larger or smaller; that it might have contained more original matter; and that faults not very difficult to be discovered have been left in sufficient abundance even to merit the censure of honest and enlightened criticism. All our Floras are plentifully sprinkled with errors.

The present compendium contains generic and specific descriptions, necessarily brief, of all the Flowering Plants and Ferns indigenous to Great Britain and Ireland; an easy introduction to that part of Botany which refers to the Classification and Description of Plants; and a Glossary. The authors whose works have afforded the greater part of the materials, are Linnæus, Hudson, Lightfoot, Wither-

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ing, Smith, Greville, Johnston, Hooker, Babington, Leighton, Mackay, and Koch. Not a little, however, has been derived from personal observation, and not a few species have been compared with the descriptions of authors before these were wholly or partially adopted. In former editions, the old, and now partly obsolete terminology was used, in deference to the opinion of esteemed individuals, and words of Saxon origin were generally preferred to those of Greek or Latin derivation; but the progress of botanical science has greatly altered the terminology, and rendered necessary the adoption of a method of description corresponding to the improvements made. A principal alteration, then, that this edition has undergone, will be found to consist of the substitution of correct for erroneous and obsolete phrases. The arrangement continues to be the Linnæan. Persons commencing the study of plants have thus still the opportunity of employing the simple and easy, though less philosophical, method of the great founder of scientific Botany and Zoology; while others may choose between the Manuals of Lindley, Hooker, and Babington—all excellent and approved works—all containing many errors—all remarkable for the indications of zeal, acuteness, and industry which they present.

W. MACGILLIVRAY.

Aberdeen, June 1, 1852.

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INTRODUCTORY INSTRUCTIONS,

ADAPTED FOR PERSONS

COMMENCING THE STUDY OF BOTANY.

PREFATORY REMARKS.

BOTANY is a progressing science, which, were it perfected, would enable us to become acquainted with the numerous and diversified vegetable productions with which the Author of Nature has adorned the surface of our globe. These objects, although possessed of life, have a constitution, in some respects, very different from that of animals, and their investigation in this point of view is extremely interesting; but the sole object of the present work being to facilitate the acquisition of a knowledge of the plants indigenous to Great Britain and Ireland, the reader is referred for an account of the anatomy and physiology of vegetables to the various recent works which treat entirely or in part of those subjects. Here he will find chiefly that kind of elementary knowledge only which will enable him to discover the name of a plant, and by directing his attention to its external form, excite in him a desire to extend his investigation to its internal structure, its relations, and its uses in the economy of nature. When he has rendered himself familiar with the outward appearance of species and their arrangement into genera, he may proceed to a more intimate examination of them, and thus acquire a knowledge of the principles by which they are grouped into natural families. Let no one imagine that, when he has become familiar with the aspect of a plant, learned its name, and observed its place of growth and time of flowering, he knows all that is interesting in its history. But before the student has submitted to a careful examination half of the plants described in the following catalogue, he will become aware of the ultimate objects of botanical study; and as it is impossible for him to form an adequate conception of them at the very commencement of his career, he must consent to acquire his knowledge by degrees.

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The present work was intended to be a compilation, and it remains as much a compilation as any of its contemporary kindred. Withering was proposed as the basis, chiefly on account of the simplicity of his descriptions; but Smith was principally followed, although the name of the former was retained by the publisher, not inaptly, as an introduction to the public, of which it seemed to have great need, as it came out contemporaneously with a first-rate British Flora. It found its way, however, and has shed its feeble rays over the land, from Cornwall to Loch Broom.

The former editions having been less carefully corrected than their rapid sale and a due regard to the wants of the public demanded, may have, in many cases, been the means of affording less accurate information than might have been supplied; and thus, in the estimation of some persons, not deficient in judgment or candour, have done harm by preventing many from having recourse to more authentic sources of information—just as oatmeal and potatoes are said to produce a less intelligent peasantry than wheat and bacon, though this is doubtful. It has been attempted to remove that objection in the present edition, in which less regard has been paid to obsolete models and the terminology purified. When the work was undertaken, the writer had no regard for Botanical fame, and when it is now brought to a tolerably respectable condition, and contains much more original matter than many of our local Floras, he has far less respect for any literary or scientific distinction than he ever had. Like other British Floras, it is necessarily based upon the labours of Sir James E. Smith. The works of more recent, and occasionally of older authors, British especially, but foreign also, have been consulted. They who are qualified, if they have not more important business to occupy their attention, may point out the particulars which have been borrowed, without having been sanctioned by the writer's own practical acquaintance with plants, many of which he has been in the habit of describing to pupils with very little reference to any even of our most esteemed Floras, all of which contain numerous errors, happily decreasing, however, as knowledge advances. Whatever may be the defects of the Linnæan Arrangement, it has still been retained in the present work.

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TERMS USED IN THE DESCRIPTION OF PLANTS.

In the compilation of this manual of British Plants the object has been to present to the public a condensed account of the species, together with the characters of the genera under which they are arranged, expressed in terms intelligible to the learner. It is not a Treatise on Botany, nor a System of Classification, nor an account of the structure and functions of plants, nor, in short, any thing else than just what it professes to be—an arrangement of the plants indigenous to England, Scotland, and Ireland. But as many persons desirous of knowing the names of our native plants make the attempt without even being acquainted with the terminology, it is thought expedient to give them a few initiatory instructions. It is too much the practice of eminent botanists to address their books to one another, as much as to their pupils.

In commencing the study of practical Botany, it is necessary in the first place to acquire some knowledge of the various parts or organs of which plants are composed. A Plant or Vegetable has been defined an organized living body, destitute of sensibility and voluntary motion. Being always fixed in a particular spot, and thus incapacitated for searching for food, as animals are wont to do, plants are nourished by the substances which surround them, and imbibe or absorb, by their external surface, the atmospheric air, water, and matters dissolved in them. Having thus little choice, their organs of nutrition present little diversity; and being exempted from the necessity of observing and distinguishing objects, their faculties are very limited, compared with those of animals.

It not being my purpose to give a philosophical view of the vegetable kingdom, the reader, who is considered as commencing the inspection of plants, and is supposed to be of a pleasant disposition, must not expect a profound and elaborate treatise, such as might serve the double purpose of displaying the author's attainments, and fairly confounding the pupil's conceptions. Though not at all addressed to children, the following particulars are intended to be plain and intelligible.

The parts of which a plant is composed are named its *Organs*. These organs are formed of *Elementary Parts*, differing from each other, but so minute as to be distinctly visible only with the aid of the microscope. These minute parts are named *Elementary Organs*, *Organic Tissue*, or *Vegetable Tissue*, and consist of *cellules* and *tubes*, of various forms, or rather of cellules, which assume a great variety of forms, and which are bounded by *membrane* and *fibre*. The parts, such as the Root, the Leaves, and the Flowers, formed of these elementary cellules

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and tubes, are what we commonly call *Organs*, or *Compound Organs*. These may be divided into two kinds: *Organs of Nutrition*, and *Organs of Reproduction*. Of the former kind are the Root, Stem, and Leaves; of the latter, the Flowers and Fruit.

It may be understood that a plant consists essentially of an *Axis* and *Appendages*. The former is composed of a *Root*, or descending part, and a *Stem*, or ascending part; the latter are the *Leaves* and their modifications. When not connected with the flowers, the appendages are simply called *Leaves*. When there are small leaves connected with the leaves, properly so called, or their stalks, they are called *Stipules*. (Pl. 9. fs. 115, 116.) When connected with the flower or its stalk, they are called *Bracts*. (Pl. 10. f. 129.) Leaves aggregated together and surrounding the flower at some distance form an *Involucre* (Pl. 11. f. 143), or when closely investing the flower, a *Calyx*. (Pl. 13. f. 159.) Delicate leaves immediately within the calyx constitute the *Corolla*. (Pl. 13. fs. 159, 163.) Within it, leaves modified so as to resemble filaments with an enlarged part at the end, form the *Stamens* (Pl. 10. f. 130, or Pl. 14. f. 175, where there are five of them in the midst of other smaller filaments with round tips); and in the centre of the flower, modified leaves inclosing seeds, are the *Carpels* (Pl. 14. f. 175.), singly or collectively forming *Seed-vessels* or *Pericarps* (Pl. 14. fs. 182, 179, 180.), which at first are usually named *Ovaries*. Thus all the organs attached to the stem are modified leaves.

OF THE ROOT AND ITS DIFFERENT KINDS.

The *Root* (Pl. 2. f. 7.) is that part of the plant which is commonly immersed in the ground. It consists of two parts, the *Body* of the root, and the *Radicles* or *Fibres*. The latter are small branches or threadlike organs which come off from the body, and are the only essential parts of the root, it being by their spongy extremities that nutritious matter is absorbed from the soil. The uses of the root are to fix the plant in a particular place, and to imbibe nourishment for it. The following are the principal varieties of the root:—

A *Fibrous Root* (Pl. 2. f. 5.) consists entirely of fibres or radicles, which may be undivided or branched.

What is called a *Creeping Root* (Pl. 2. f. 6.) is a kind of subterranean stem, running horizontally, and throwing out fibres at intervals. The fibres are the true roots; but although the body may be called a stem, it is also analogous to the body of a root, and in fact gives off stems, as in Mint.

A *Tapering* or *Spindle-shaped Root* (Pl. 2. f. 7.) is a thickened, fleshy root, tapering downwards, and sending out small fibres.

A *Tuberous* or *Knobbed Root* (Pl. 2. fs. 9, 10, 11.) consists of fibres, together with one or more fleshy knobs, varying in form,

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and which are, properly speaking, subterranean reservoirs of nutritious matter for the development of the stem and leaves of next year. The true Tuber, however, as that of the potato, is a fleshy subterranean stem or branch, having buds in it, which on being developed become stems.

An *Abrupt Root* (Pl. 2. f. 8.) is a kind of fleshy root, having an elongated form, and looking as if it had been bitten off at the lower end.

A *Bulbous Root* is a root which, superadded to numerous fibres, has an enlarged, more or less spherical part, or bulb. The Bulb itself, however, is not a root, but a subterranean bud, composed of fleshy leaves or bases of leaves. It may be *coated*, composed of concentric layers (Pl. 2. f. 14.); or *scaly*, consisting of thick scales. (Pl. 2. f. 15.)

A *Granulated Root* (Pl. 2. f. 16.) consists of numerous small bulb-like buds or scales strung together.

The duration of the root determines that of the plant. When the root lasts only one year, or a portion of a year, the plant is said to be *Annual*. When it continues two years, the plant is *Biennial;* when more than two years, *Perennial.*

OF THE STEM.

The *Stem* is that part of the plant which supports the leaves and flowers. Although it generally rises into the air, it sometimes remains underground, or creeps along the surface of the soil. Stems may, in fact, be arranged into subterranean and aerial. Of the former there are four principal kinds.

1. The *Rhizoma* or *Root-stock* is a fleshy stem, which is entirely or partially buried in the ground, sending off roots from its lower part and sides, and having towards its upper extremity buds which produce branches and leaves; as in the Iris.

2. The *Tuber*, such as the Potato, is a subterranean stem or branch, enlarged, and furnished with buds.

3. The *Cormus* is a solid subterranean stem, of a roundish form, and covered with scales or membranes; as in the Crocus, Colchicum, and Gladiolus.

4. The *Creeping Root-stem* is a slender, jointed, and branched underground stem, such as we see in Mint. In Grasses and Carices it is very slender, often much elongated, and sends up stems or branches at intervals. In description, however, this kind of stem is very often called a Root. In the Grasses, for example, "root creeping" is a common phrase, even with those who are not in any way ignorant of the difference between a root and a stem.

Some plants have no stem, or only a very short one, and are therefore denominated *stemless.*

Others have a soft stem, which, after the fruit is perfected, decays, and is named *herbaceous.*

Others, again, have a hard *woody* stem. Plants possessed of

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this kind of stem are, when large, called *Trees;* when small, *Shrubs.*

In the woody stem there are distinguished the following parts; the *cuticle* or *epidermis*, the external thin filmy covering; the *cellular integument*, a thin layer under the epidermis; the *outer bark*, generally of a brown or gray colour; the *inner bark*, a whitish, soft, fibrous, and very flexible part, lying under the outer bark; the *alburnum*, or layers of young wood next to the inner bark; the *duramen* or *hard wood*, also in layers; and lastly, the *pith*, a white, cellular, spongy substance, occupying the centre of the stem, and inclosed by the medullary sheath.

The stems of trees and shrubs growing in our climate are all of this kind. They increase in size by the addition of a new layer of wood every year to the alburnum, and of a thinner layer to the inner bark. It is thus between the wood and the bark that the substance is formed which, at first a clammy fluid, named *Cambium*, is, according to some, gradually organized, and converted into wood and bark. Plants that increase in size in this manner, are called *Exogenous*, that is, growing outwards, because their growth takes place near the surface. But palms, and other trees of tropical countries, having no distinction of parts into pith, woody layers, bark, and epidermis, enlarge by the addition of fibres to their interior, and are thus said to be *Endogenous*, or growing inwards.

Herbaceous stems have also an epidermis, cellular substance, fibrous and vascular tissue, and sometimes internal pith.

The stem of a tree is called its *Trunk;* the divisions of the stem are the *Branches* and *Twigs.*

Stems in general may be *simple*, having no divisions; or they may be *branched.* The branches may come off in *whorls* or *verticils*, all round the stem, at intervals, as in many pines, or, at intervals in pairs, one branch *opposite* the other, or one by one *alternately.* Of the latter there are several kinds—

Two-ranked, when the branches spread in two opposite directions.

Four-ranked, when they spread in four directions.

With respect to its general direction, the Stem is

Erect or *Upright*, when it rises perpendicularly.

Ascending or *Oblique*, having an oblique direction.

Procumbent, lying on the ground.

Creeping or *Repent*, running along the ground, and sending down roots from space to space, in the manner of Pl. 2. f. 6. The *Runner* (Pl. 3. f. 22.) is a stem of this kind, which, forming a bud at its extremity, produces a new plant, and then withers.

Prostrate, lying remarkably flat.

Clinging (Pl. 3. f. 19.), holding fast to some other body for support, by means of fibres.

Climbing or *Scandent*, ascending on other bodies, either by fibres or by tendrils.

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Twining round other plants or bodies. (Pl. 3 f. 20.) Some stems twine from left to right, others from right to left.

Straight, proceeding in a direct course.

Flexuous or *Zig-zag*, forming angles from right to left, and the reverse.

With respect to form, the Stem is

Round or *Cylindrical*, when a transverse section is circular, or nearly so.

Semi-cylindrical, when flat on one side and round on the other.

Compressed, when more or less flat on both sides.

Two-edged, when more or less compressed, with two opposite sharp edges.

Three-edged, or triangular, or three-cornered.

Four-edged, or four-cornered.

Five-cornered. When the number of corners exceeds five, the stem is described as being *angular* or *many-cornered*.

Winged or *Alate*, when the edges or corners are extended into thin leafy borders.

Jointed or *Articulated*, when formed into distinct parts united by portions of smaller diameter.

With respect to its surface, it is

Glabrous, *Smooth*, bare, or destitute of all kinds of hairiness.

Even, destitute of all kinds of inequality.

Polished or *Shining*, smooth and reflecting light.

Viscid or *Clammy*, covered with a glutinous juice.

Scaly or *Squamous*, covered with scales.

Warty or *Tuberculate*, covered with small hard protuberances.

Papillous, covered with small soft protuberances.

Rough or *Uneven*, covered with inequalities of any kind, as opposed to even.

Prickly or *Aculeate*, covered with prickles.

Bristly or *Hispid*, covered with stiff hairs.

Shaggy, covered with very long, soft, generally white hairs.

Woolly, covered with long, soft, interwoven, or tortuous hairs.

Hairy or *Pilose*, covered with long, soft, straight hairs.

Downy or *Tomentose*, covered with soft, fine hairs.

Hoary, covered with close, white hairs, extremely fine.

Glaucous, covered with a pale greenish-blue mealiness, consisting of minute particles of the nature of wax.

Striated or *Streaked*, marked with parallel longitudinal lines.

Furrowed, *Grooved*, or *Sulcate*, marked with larger alternately prominent and depressed lines. When the lines become wider the stem is *Cornered* or *Angular*.

Internally the Stem may be

Solid or *Full*, without an internal cavity.

Hollow or *Fistulous*, having a large internal cavity.

Pithy, having the central part filled with spongy pith.

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There is a kind of stem, peculiar to grasses and other allied plants, which is named the *Straw* or *Culm*. It presents the following, among other varieties:—

Articulate or *Jointed*, with cylindrical hollow parts, united by a contracted solid part.

Nodose or *Knotted*, when the joints are much enlarged.

Geniculate or *Kneed*, when the joints are bent like a knee.

It may be solid, round, triangular, smooth, rough, hairy, or downy.

A variety of the Stem is the *Stalk*, *Flower-stalk*, *Scape* or *Radical Peduncle* (Fig. 19.), which springs from the root, and supports the flowers, but not the leaves. It may be

Simple, or undivided, and bearing a single flower.

Subdivided, and bearing several flowers.

Scaly, covered with scales.

Naked, without scales.

As to surface, &c., it is named like the Stem.

OF THE LEAVES.

The *Leaves* are organs of an expanded form, almost always of a green colour, internally cellular, fibrous, vascular, and more or less pulpy. They are organs of respiration, absorption, and evaporation; and it is by the action of the air upon the juices of the plant conveyed into them, that the substances necessary for the growth of all the organs are prepared. These substances, in a fluid state, afterwards descend through the leaf-stalk, and the outer parts of the stem.

Many plants are destitute of leaves, and are therefore termed *leafless*. When a leaf has no stalk, it is said to be *sessile* or *sitting*. (Pl. 9. f. 124.) When it is elevated on a stalk, it is said to be *stalked* or *petiolate*. (Pl. 8. fs. 113, 114.)

The *Leaf-stalk* or *Petiole* is either *simple*, that is, undivided (Pl. 7. f. 82.), or *compound*, that is, variously branched or divided. (Pl. 8. fs. 112, 113.) It is commonly channelled on the upper side, and frequently enlarged at the base.

With respect to situation and position, Leaves are

Radical or *Root-leaves*, when they arise from the top of the root, or from a very short stem.

Cauline or *Stem-leaves*, when they grow on the stem.

Alternate (Pl. 3. f. 21.), when they come off from the stem one by one in different directions.

Opposite, when they grow opposite to each other in pairs.

Scattered, irregularly distributed.

Clustered, crowded together.

Remote, when widely separated.

They may grow two together, in threes, four together, &c.

Verticillate or *Whorled* (Pl. 10. f. 127.), when several leaves, three or more, grow in a circle round the stem.

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Fasciculate or *Tufted*, when several leaves spring from one point.

Imbricated (Pl. 4. f. 27.), when one leaf lies closely over another, like the tiles or slates on the roof of a house.

Decussated (Pl. 4. f. 28.), in pairs alternately crossing each other.

Distichous, *Two-ranked*, spreading in two directions.

Unilateral, *Secund* (Pl. 4. fs. 29, 30.), all inclining one way.

With respect to direction, they are

Adpressed or *Close-pressed* to the stem.

Erect or *Upright*, forming a very acute angle with the stem.

Vertical, standing quite erect.

Spreading, forming a moderately acute angle with the stem.

Horizontal, standing off at right angles.

Reclinate, inclining downwards.

Reflected, bent backwards.

Inflected, bent inwards.

Depressed, root-leaves pressed close to the ground.

Floating, leaves lying flat on the surface of the water.

Immersed or *submersed*, under water.

Emersed, standing out of the water.

With respect to insertion, or attachment to the stem or branches, Leaves are

Embracing or *Amplexicaule* (Pl. 4. f. 32.), when they clasp the stem with their base.

Connate or growing together (Pl. 3. f. 17.), united at their base.

Perfoliate (Pl. 4. f. 34.), when the stem runs through the leaf.

Sheathing or *Vaginant* (Pl. 4. f. 34.), investing the stem or each other with a sheath.

Equitant or *Riding* (Pl. 4. f. 35.), disposed in two opposite rows, and embracing each other at the base.

Decurrent (Pl. 4. f. 36.), running down the stem or branch so as to form a leafy border.

Peltate or *Shield-shaped* (Pl. 4. f. 31.), when the stalk is inserted into the middle of the leaf.

Leaves are Simple or Compound. A *Simple Leaf* (Pls. 5, 6, 7.) is one which consists of a single piece, whether sessile or stalked. A *Compound Leaf* (Pl. 8. fs. 105, 106, 107, 112, 113.) is one which consists of several pieces connected by insertion into a common footstalk. In simple leaves there are to be considered the general form, the terminations, the margins, the surface, the substance, and the duration.

With respect to form, Simple Leaves are

Orbicular (Pl. 5. f. 38.), when the length and breadth are equal.

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Roundish (Pl. 5. f. 39.), when the length and breadth are nearly equal.

Ovate, Egg-shaped (Pl. 5. f. 40), longer than broad, the base broader than the end.

Inversely ovate, or *obovate* (Pl. 5. f. 41.), longer than broad, the end broader than the base.

Oval or *Elliptical* (Pl. 5. f. 42.), the length greater than the breadth, but both ends alike rounded.

Oblong (Pl. 5. f. 43.), the length three or four times greater than the breadth.

Spathulate, circular at the end, and tapering towards the base.

Wedge-shaped or *Cuneate* (Pl. 5. f. 44.), broad at the end, and tapering towards the base.

Rhombic or *Diamond-shaped,* four-sided, with two lateral angles. (Pl. 5. f. 51.)

Lance-shaped, Spear-shaped, or *Lanceolate* (Pl. 5. f. 25.), oblong and narrow, tapering towards each end.

Linear (Pl. 5. f. 46.), very narrow, with the edges parallel.

Needle-shaped, Acerose, or *Acicular* (Pl. 5. f. 47.), linear, rigid, and evergreen.

Triangular (Pl. 5. f. 50.), flat, with three angles.

Quadrangular (Pl. 45. f. 49.), with four angles.

Quinquangular, with five angles.

Reniform, Kidney-shaped (Pl. 5. f. 32.), roundish, with the base hollowed out.

Cordate, Heart-shaped (Pl. 5. f. 53.), ovate, with the base hollowed out.

Sagittate, Arrow-shaped (Pl. 5. f. 55.), triangular, hollowed out at the base, with the angles pointed.

Hastate, Halbert-shaped (Pl. 5. f. 56.), triangular, hollowed out at the base and sides, with a projecting part on each side.

Pinnatifid (Pl. 6. f. 66.), cut transversely into several oblong segments.

Lyrate, Lyre-shaped (Pl. 5. f. 59.), cut transversely into several oblong segments, with the terminal segment rounded and larger than the others.

Runcinate (Pl. 5. f. 58.), a leaf having numerous segments, which are pointed and directed backwards.

Pectinate or *comb-like* (Pl. 6. f. 68.), with the segments very narrow.

Cleft (Pl. 5. f. 60.), when the margins of the segments are straight.

Lobed (Pl. 5. f. 61.), when the margins of the segments are rounded.

Palmate (Pl. 7. f. 65.), when there are several oblong segments, extending to the middle of the leaf, leaving an entire space, so as to resemble a hand.

Undivided, when there are no segments, as in Pl. 5. fs. 38, 39, 40, 41.

Digitate (Pl. 6. f. 65.), when the segments extend to the base.

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Pedate (Pl. 5. f. 63.) Like the last, but with the lateral segments separated.

With respect to their terminations, Simple Leaves are

Blunt or *Obtuse* (Pl. 5. f. 39.), when rounded at the end.

Truncate, Abrupt (Pl. 6. f. 70.), when the extremity seems as if cut off by a transverse line.

Retuse (Pl. 6. f. 71.), ending in a broad shallow notch.

Notched or *Emarginate* (Pl. 6. f. 72.), ending with a small notch.

Acute or *Pointed* (Pl. 6. f. 69.), ending in a point.

Acuminate or *Taper-pointed* (Pl. 6. fs. 74, 75.), having a long tapering point.

Bristle-pointed (Pl. 6. f. 73.), when terminated by a bristle, or tapering hair-like point.

Cirrous (Pl. 6. f. 76.), terminated by a tendril or clasper.

With respect to their margins, they are

Entire (Pl. 6. fs. 38, 39.), when destitute of teeth or notches of any kind on the edges.

Dentate, Toothed (Pl. 6, f. 79.), having small, generally blunt protuberances on the margin, which are named teeth.

Serrate (Pl. 6. f. 80.), when the teeth are sharp, close, and point in one direction, like those of a saw.

Finely Serrate or *Serrulate*, when the teeth are minute.

Crenate or *Notched* (Pl. 6. f. 81.), when the teeth are broad and not directed towards either end.

Erose, Gnawed, or as if bitten off (Pl. 5. f. 60.), irregularly notched or cut.

Undulated or *Waved* (Pl. 6. f. 74.), presenting a waved margin.

Fringed or *Ciliate* (Pl. 6. f. 78.), bordered with soft hairs.

Prickly or *Spinous* at the margin. (Pl. 6. f. 77.)

Revolute, or rolled back at the margin.

Involute, or rolled inwards at the margin.

With respect to *surface*, leaves present numerous varieties, the principal of which have already been pointed out in speaking of the surface of the stem. Thus they may be smooth, hairy, downy, &c.

Leaves, however, may also be

Veined, or prominently veined (Pl. 7. fs. 82, 88.), when the vessels are more or less prominent; *Reticulated*, when they are subdivided so as to form a net-work.

Ribbed or *Nerved* (Pl. 7. fs. 89, 90.), when the vessels extend in undivided lines.

Wrinkled or *Rugose*, when the veins are tighter than the substance between them, so that the latter becomes puckered.

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Plaited or *Plicate* (Pl. 7. f. 83.), when the leaf is folded, so as to present alternately projecting and retiring angles.

Curled or *Crisp*, when the margin is greatly more expanded than the disk, and the leaf thus becomes folded or curled.

Glabrous, *Naked*, destitute of all kinds of hairiness.

With respect to substance, Simple Leaves are

Membranous, when very thin and easily torn.

Leathery or *Coriaceous*, when thin but very tough.

Fleshy, when more or less thick and juicy.

Cartilaginous, when more or less thick and tough.

Flat, thin and expanded, as opposed to the following:

Cylindrical or *round*; *Semi-cylindrical*, flat on one side, and round on the other.

Compressed, when thick and flattened laterally.

Depressed, flattened vertically.

Channelled or *Canaliculate*, having a longitudinal groove.

Keeled or *Carinate*, having a longitudinal prominence or ridge on the back.

Sword-shaped or *Ensiform*, perpendicular, two-edged, and slightly convex on both surfaces.

Awl-shaped or *Subulate*, long, cylindrical at the base, and tapering to a point.

Capillary, *Hair-shaped*, or *Bristle-shaped*, the same, but more slender.

Hollow or *Tubular*, more or less cylindrical and empty.

Jointed or *Articulate*, divided into cavities by transverse partitions.

Two-edged, *Trigonal*, *Tetragonal*, *Three-sided* or *Three-edged*, *Four-sided*, &c.

With respect to duration, Leaves are

Caducous, when they fall soon after their development.

Deciduous, when they fall before the next spring.

Marcescent, when they wither before falling.

Persistent, *Permanent*, or *Evergreen*, when they remain longer than a year.

Compound Leaves are named as follows:—

Compound Leaves are such as present a greater or less number of distinct parts connected by a common stalk. The distinct parts are named *Leaflets* or *Folioles*, and the divisions of the common stalk are named *Partial Stalks*. The following are the principal kinds of Compound Leaves:

Fingered or *Digitate*, when several leaflets rest upon the summit of a common stalk.

Binate (Pl. 8. f. 105.), when two leaflets rest upon a common stalk.

Ternate (Pl. 8. f. 106.), when three leaflets rest upon a common stalk.

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Quinate, when the leaflets are five.

Pedate (Pl. 8. f. 114.), a ternate leaf, having its lateral leaflets divided into several others.

Pinnate or *Winged* (Pl. 9. f. 116), when several leaflets proceed laterally from a common stalk. Of this there are several varieties.

Pinnate with an odd *terminal leaflet*. (Pl. 9. f. 116.)

Pinnate with a *tendril* (Pl. 9. f. 122.), when a tendril or threadlike body terminates the stalk.

Abruptly Pinnate, without a terminal leaflet or tendril.

Alternately Pinnate, when the leaflets are alternate.

Oppositely Pinnate, when the leaflets are opposite.

Interruptedly Pinnate (Pl. 8. f. 107.), when there are smaller leaflets between the larger.

Jointedly Pinnate, with joints in the stalk.

Decurrently Pinnate, when the leaflets run down the stalk.

Pinnate in a lyrate manner (Pl. 8. f. 108.), when the terminal leaflet is largest.

Conjugate, *Yoked*, or *Paired* (Pl. 9. f. 115.), when there are only two pinnæ or leaflets.

Bigeminate, twice paired.

Trigeminate, thrice paired.

Biternate (Pl. 8. f. 112.), twice ternate.

Triternate (Pl. 8. f. 113.), thrice ternate.

Bipinnate, twice pinnate.

Tripinnate (Pl. 8. f. 101.), thrice pinnate.

Without reference to the mode of division, the degrees in which leaves are compounded are expressed in the following terms:—

Compound, as in Pl. 8. fs. 106, 107.

Twice compound, as in Pl. 8. f. 112.

Thrice compound, still more divided. (Pl. 8. fs. 101, 113.)

Besides leaves, properly so called, there are on the stem, or connected with the *petioles* or leaf-stalks, or *peduncles* or flower-stalks, small leaves, named *Stipules* and *Bracts*.

1. The *Stipule* (Pl. 9. fs. 115, 116.), or appendage to the leaf. An organ generally of a leafy nature, or like a rudimentary leaf, appended to the base of the leaf, or its petiole, and named in the same manner as the leaves themselves, being ovate, arrow-shaped, serrate, obtuse, &c. They are commonly sessile and in pairs. The stipule of grasses is frequently termed the *ligule*, or strap.

2. The *Bract* or *Floral leaf* (Pl. 10. fs. 128, 137, 138.), a leafy appendage to the flower or its stalk. It varies greatly in form, and is named like the leaves, which it frequently resembles in colour and texture, although it is often much thinner and variously coloured. The membranous bracts of grasses are named *glumes* and *glumellas*. (Pl. 12. f. 148.)

3. The *Spatha* or *Sheath* (Pl. 12. f. 147.) is a membranous bract which incloses the flower in its earliest stages, after-

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wards bursts longitudinally, and is ultimately at a greater or less distance from the flower.

4. The *Involucre* (Pl. 11. f 143.) is a kind of bract, consisting of several leaves, placed at a distance from the flower. When at the base of a common or general umbel, it is called the *Common Involucre* (Fig. 89, *a.*); and when at the base of a partial umbel, the *Partial Involucre.* (Fig. 90, *b.*) The same name is now generally given to the calyx of the compound flowers.

There may further be mentioned as connected with the stem or leaves—

1. The *Tendril* or *Cirrus* (Pl. 9. f. 122.), a threadlike organ, a prolongation of the midrib or veins of the leaves, which serves to attach plants to some support. It may be simple or divided.

2. *Glands*, small round bodies which secrete fluids.

3. The *Thorn* or *Spine* (Pl. 9. f. 120.), an acute appendage which arises from the wood, being in fact an abortive branch. It may be *terminal*, situated at the point of a branch; *axillar*, at the origin of the branch; *simple* or *branched.*

4. The *Prickle* or *Aculeus* (Pl. 9. f. 121.), a pointed production which arises from the bark, having no connection with the wood.

5. *Hairs*, slender bodies of various degrees of fineness, by which the surfaces of plants are covered. They are generally simple, sometimes branched in various degrees.

OF THE FLOWER-STALK AND INFLORESCENCE.

The *Flower-stalk* or *Peduncle* is the more or less slender body by which the flower is connected with the stem or other parts of the plant. When it arises from the root, it is called a *Scape* or *Radical Peduncle*, as already mentioned. When it springs from the stem, it is

Lateral, when situated on the side.

Terminal, when it terminates a stem or branch.

Axillar, when it grows between a leaf and the stem, or between a branch and the stem.

Opposite to a leaf, or to another flower-stalk.

Solitary, when there is only one in the same place.

Clustered, when several grow together.

Scattered, irregularly distributed.

A Flower-stalk may be one, two, three, or many-flowered. When it is branched or otherwise divided, the principal stalk is called the *General* flower-stalk or *Peduncle;* the ultimate divisions are *Partial* flower-stalks or *Pedicels.*

When the flowers are destitute of stalks, they are said to be *Sessile*, or sitting.

The *Inflorescence* is a term used to denote the particular way in which the flower-stalk is divided. The following kinds are described:—

1. The *Whorl* or *Verticil* (Pl. 10. f. 127.) consists of several

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flowers which encircle the stem, in the same manner as whorled leaves, whether they be furnished with stalks, or, as is more commonly the case, sessile.

2. The *Spike* (Pl. 10. f. 129.) is that kind of inflorescence in which numerous flowers are ranged along a common stalk, without any partial stalks, or only very short ones. The spike may be lateral, axillar, or terminal, according to its position. It is also described, according to its general form, as being ovate, oblong, cylindrical, &c. When the flowers all lean to one side, it is called *one-rowed* or *unilateral*, as in Pl. 10. f. 129. When they are arranged along two sides, it is called *distichous* or *two-rowed*. (Pl. 10. f. 131.) When subdivided into lesser spikes, it is said to be *compound*, and these lesser spikes are called *spikelets*.

The *Spikelet* (Pl. 10. f. 131.) is a term applied to grasses which have many flowers arranged on a stalk, within a kind of common envelope, composed of two thin bracts. But it is also applied to sedges and many other plants, of which the bracts are single.

3. The *Cluster* or *Raceme* (Pl. 10. f. 130, 128.) consists of numerous flowers, each on a stalk of its own, arranged along a common stalk. The principal difference between the raceme and the spike is, that in the latter the flowers are nearly or entirely sessile and close, while in the former they are more or less stalked, and somewhat distant from each other. The cluster may be one-rowed, simple, compound, erect, pendulous, &c. There is little real difference between a spike and a raceme, and sometimes, when the pedicels, or little flower-stalks, are very short, the raceme is said to be *spicate*. (Pl. 10. f. 130.)

4. The *Corymb* (Pl. 10. f. 133.) is an erect cluster, the partial stalks of which are gradually longer as they stand lower on the common stalk, so that the flowers are nearly level.

5. The *Bundle* or *Fasciculus* (Pl. 10. f. 134.) consists of several flower-stalks of equal height, arising at the end of the stem, variously inserted and subdivided, and forming a close bundle.

6. The *Head* or *Capitulum* (Pl. 10. f. 135.) bears the flowers sessile in a globular or ovate form. It is merely a condensed spike or raceme. The same term, however, is often applied to a different kind of inflorescence.

7. The *Umbel* (Pl. 10. f. 136.) consists of a number of flower-stalks of nearly equal length, rising from one common centre or point, their summits forming a level or convex surface. When the stalks are simple and single-flowered, it is called a *Simple Umbel*. (Pl. 10. f. 136.) When the summit of each stalk sends out a number of smaller stalks, similarly arranged, it is called a *Compound Umbel* (Pl. 10. f. 138.); in which case the first stalks are collectively called the *General* umbel, and the smaller sets the *Partial* umbels, or *Umbellules*.

8. The *Cyme* (Pl. 11. f. 139.) is that kind of inflorescence

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which has the general appearance of an umbel, but in which the principal stalks only spring from a common centre, while the others are variously and alternately subdivided.

9. The *Panicle* (Pl. 11. f. 140.) bears the flowers in a kind of loose subdivided cluster. Or it may be defined a raceme, of which the partial stalks are subdivided. It presents the following varieties:—

Loose or *Lax*, when the stalks are distant.

Close, when they are placed near each other.

Crowded, when very close.

Spreading, when the branches spread out on all sides.

10. The *Thyrsus*, or *Bunch* (Pl. 11. f. 141.) is a close panicle, having an oval form.

11. The *Amentum*, or *Catkin* (Pl. 11. f. 146.) is a long simple stalk, thickly covered with scales or bracts, under which are the flowers, or their essential parts.

OF THE FLOWERS AND FRUIT.

The Organs, of which the principal modifications are above defined, being subservient to the growth of the individual, are named Organs of Nutrition, as already mentioned. Those which we have now to examine are the Organs of Reproduction.

The Flower and Fruit are generally termed the *Fructification*, which Linnæus defines "a temporary part of vegetables, destined for the reproduction of the species, terminating the old individual, and beginning the new." There are distinguished several parts of fructification, some of which, however, are not of universal occurrence. These parts are the Calyx, the Corolla, the Stamens, the Pistils, the Seed-vessel, the Seed, and the Receptacle. The seed, the pistil, and the stamen, are the most essential parts. The receptacle is always present; but the corolla and the calyx are frequently wanting.

Instead of referring to figures, the learner had better obtain half-a-dozen flowers of different kinds, by inspecting and comparing which he will soon find his way. But many garden flowers want some of the organs. Double or full flowers, for example, have the stamens converted into petals. Still, he sees in this an illustration of the general fact, that all the organs of a plant are essentially leaves, and by various causes may change into each other.

Of the Calyx.

The *Calyx* or *Flower-cup* (Pl. 13. f. 159.) forms the outer part or covering of the flower. It may be of one or of several pieces or leaves, named *sepals*, and is generally of a green colour. It is sometimes wanting, in which case the flower is said to be naked. Several varieties of the calyx are distinguished.

The *Perianth* or Calyx properly so called (Fig. 109 *b*. 110, *a*.), is contiguous to the corolla or other internal parts of the flower, closely investing them. But by this term is now often

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meant the covering of the stamen and pistils, or both the Calyx and the Corolla. The following varieties may be mentioned:

A *simple Calyx*, when there is only one, as is generally the case.

Double, when there are two, or rather two sets of leaves.

One-leaved or *of one leaf*, *Monophyllous*, *Monosepalous*, or *Gamosepalous*, the pieces or leaves of the calyx being called *Sepals* (Fig. 112.), when it consists of a single piece, which, however, may be variously divided; in which case the divisions are called *segments*, and, when small, *teeth*. In this kind of calyx, the sepals are more or less united; but their number is indicated by that of the segments or teeth, into which the mouth is divided.

Two-, *three-*, *four-*, or *five-leaved*, or *many-leaved*, when it consists of so many distinct pieces or leaves: *Disepalous*, *Trisepalous*, *Tetrasepalous*, *Pentasepalous*, *Polysepalous*.

Entire, when a one-leaved calyx has no divisions.

Tubular, when cylindrical towards the base.

Spreading, when the leaves or segments stand out horizontally.

Reflected, when they are bent back.

Erect, when they stand upright.

Permanent or *Persistent*, when it remains till the fruit is ripe.

Deciduous, when it falls off before the fruit is ripe.

Caducous or *Fugacious*, when it falls off before the corolla.

Coloured, when of any other colour than green. Certain parts, which in reality are bracts, are often described as of the nature of the Calyx.

Some give the name of *Common Calyx* to an aggregation of little leaves containing a great number of flowers, which are placed so closely together that the whole appears like a single flower. This so-called kind of calyx consists of several pieces or leaves, which are in fact bracts. Properly speaking, this is not a calyx, but an *Involucre* of a particular kind, investing an expanded receptacle, on which are placed numerous small flowers. It is

Simple, when the flowers are surrounded by a single row of leaves.

Double, when the flowers are surrounded by two rows of leaves.

Equal, when in a simple involucre of this kind the leaves are all of equal length.

Imbricated, when the common calyx consists of numerous imbricated leaves or scales, one lying close above another.

Spherical, *Globose*, or *Globular*, when it has the form of a sphere or ball.

Hemispherical, when round below and flat above.

Ovate, when of the form of an egg.

Cylindrical, when long and round.

Flat, when the scales are spread out.

The scales or leaves of the common calyx are described in

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the same manner as leaves. Thus they may be ovate, lanceolate, fringed, thorny, or spinous, &c.

The *Scales* of the Catkin are considered as bracts, analogous to leaves of a calyx.

The *Outer Husks* or *Glumes* are what some consider the peculiar calyx of grasses, and plants allied to them. (Pl. 11. f. 140.) They are, however, bracts, and not sepals.

Of the Corolla.

The *Corolla* is the envelope of coloured and delicate leaves, always internal with respect to the calyx, and surrounding the stamens and other essential parts. The leaves or pieces of which it is composed are called *Petals*. When it appears to consist of one piece only, it is called *Monopetalous*, or in common language a corolla of one petal, or *Gamopetalous*, of united petals. Corollas are seen in Pl. 13. fs. 159, 163.

What some consider as the corolla of grasses consists of one or two pieces called *paleæ*, *pales*, or *glumellæ*, resembling the outer *glumes*, or supposed calyx. There is frequently appended to them a hard elongated body called the awn (Pl. 12. f. 149.), which is often twisted.

The *Monopetalous Corolla* (Pl. 13. f. 160.) consists of two parts: the *tube*, the narrow part generally inclosed in the calyx: and the *limb*, the expanded part. The following varieties of this kind of corolla may be mentioned:—

Strap-shaped, narrow and flat, unless at the base.

Tubular, consisting of a single piece, hollow and of nearly equal thickness; this term, however, is used with great latitude, and, in the compound flowers, applies to corollas of various forms.

Spherical or *Globose*, narrow above and below, and enlarged in the middle.

Bell-shaped or *Campanulate* (Pl. 13. f. 159.), having the form of a bell, with the margin bent back.

Cup-shaped, of nearly the same form, with the margin straight.

Funnel-shaped or *Infundibuliform* (Pl. 13. f. 160.), inversely conical.

Salver-shaped or *Hypocrateriform* (Pl. 12. f. 155.), when the tube is cylindrical, but very long, and the limb expanded.

Wheel-shaped or *Rotate*, the same as salver-shaped, with the tube very short.

Ringent or *Gaping* (Pl. 13. f. 161.), when the limb is divided into two parts, the upper more or less arched, the under oblong; these parts are called *lips*.

Personate or *Masked* (Pl. 13. f. 162.), when the limb is divided into two parts, which are closely pressed together, the throat being thus closed.

The *Polypetalous Corolla* consists of two or more distinct

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pieces or *Petals*. In each petal there are distinguished two parts: the *claw* or *unguis*, which is the narrow portion; and the *border* or *lamina*, the expanded part. (Pl. 12. f. 157.) The following are the principal kinds:

Cruciform or *Cross-like* (Pl. 12. f. 156.), when four petals, having long claws, stand opposite to each other in pairs.

Rosaceous (Pl. 14. f. 175.), roundish petals, destitute of claws, spread out in the form of a rose.

Papilionaceous or *Butterfly-like* (Pl. 13. f. 163), when five petals, differing in form, stand together. These different petals have particular names. The uppermost, which is commonly the largest, is named the *standard* or *vexillum*. (Pl. 13. f. 164.) The two side petals, standing opposite to each other, are the *wings* or *alæ*. (Pl. 13. f. 165.) The two undermost petals form the *keel* or *carina*. (Pl. 13. f. 166.)

The Corolla is called *regular*, when its general form is symmetrical, as in Pl. 13. fs. 159, 160; *irregular*, when this is not the case, as in Pl. 13. fs. 161, 162, 163. An *equal* corolla is regular, and has its divisions all of one size, as in Pl. 13. fs. 159, 160.

The *Nectary* is that part of the flower which contains or secretes honey. In monopetalous flowers, this part is the tube of the corolla. Sometimes it is a production of the corolla, and sometimes of the calyx. In other cases it is a part distinct from either. The following kinds may be mentioned:

The *Spur* (Pl. 13. f. 171.) is a horn-shaped production of the corolla.

Scales, on the petals.

Pores, or small holes, which occur on various parts of the flower.

Glands, or soft roundish bodies. But the term is not now much used, there being no general organ, having a definite position, to which the name could be applied.

Of the Stamens.

The *Stamens* (Pl. 14. f. 176.) are essential parts of the flower, consisting each of a bag filled with a kind of powder, and generally supported upon a stalk. There are thus distinguished three parts in the stamen: the filament, the anther, and the pollen. The filament is analogous to the stalk of the leaf, the anther to its blade, folded in upon itself by the margin.

1. The *Filament* (Pl. 14. f. 176, *a*.) is a longish body destined for the support of the anther. It varies greatly in form, being

Hair-like or *Capillary*, of equal thickness throughout, and as fine as a hair.

Thread-like or *Filiform*, thicker than a hair.

Awl-shaped or *Subulate*, thicker below than above.

Dilated, compressed and expanded on the sides.

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Connate or *United*, when several filaments adhere together.

Incurved, bent towards each other.

Recurved, bent outwards.

Equal, when all are of equal length; and *Unequal*, when some are longer than the others.

The filaments may be free, or adherent to the calyx, or the petals, or they may be united into a tube, when they are said to be *monadelphous;* or into two parcels, when they are *diadelphous*, even when only one is separate, the rest being united, as in Pl. 13. f. 167. When there are several parcels, they are said to be *polyadelphous.*

2. The *Anther* (Pl. 14. f. 176, *b.*) is a hollow cellular body, containing a quantity of *pollen*, resembling powder or granules. It is commonly oblong, but varies greatly in form, being linear, globular, kidney-shaped, arrow-shaped, &c. It may also be cleft at the extremities, awned, one-celled, two-celled, &c.

Anthers are *connate*, when several grow together, forming a tube.

Innate, when the anther stands with its base straight on the point of the filament.

Adnate, when the filament runs up, as it were, between the lobes of the anther.

Lateral, attached by its side.

Sessile, destitute of filament.

3. The *Pollen* is contained in the anther. At a certain stage of vegetation the anther bursts, and the pollen is scattered around. Some of the grains adhere to the stigma or summit of the pistil, in consequence of which the young seeds begin to enlarge, and are rendered capable of giving rise to new plants. This action of the pollen is termed Fecundation or Impregnation. Without it the seeds would either not enlarge, or when full-grown would be incapable of germinating.

When the stamens come off from, or are inserted into the receptacle, and are free from any adherence to the ovary or calyx, although they may be more or less attached to the petals, they are said to be *hypogynous.* When they adhere to, or are inserted upon the calyx, they are *perigynous.* When they adhere to the ovary, and become free only at its summit, they are *epigynous.*

The number of stamens varies from one to several hundreds. A flower with one, two, three, four, five, or six, or many stamens, is *monandrous, diandrous, triandrous, tetrandrous, pentandrous, hexandrous, polyandrous. Definite*, when of a particular or small number; *indefinite*, too numerous to be counted with any useful result.

When there are four stamens, two of them equal and longer than the other two, which are also equal, they are *didynamous. Tetradynamous*, when six, four long and of equal length, and two short.

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Of the Pistils.

The Pistil (Pl. 14. f. 177.) is also an essential part of the flower, occupying its centre. It consists of three parts—the germen, the style, and the stigma.

1. The *Germen* or *Ovary* (Pl. 14. f. 177, *a.*) is the undermost part of the pistil, and is the rudiment of the fruit. The number of germens varies, like that of the stamens. It is also of various forms: ovate, globular, elliptical, &c. It may also be

Superior, when situated above the corolla or calyx.

Inferior, when situated below these parts, or rather when these parts adhere to its sides, so as to be incorporated with it, and not to separate until they have reached its summit.

Sessile, when destitute of a stalk; or *Stalked*, when supported upon one.

The pieces or leaves of which it is composed are called *Carpels.*

2. The *Style* (Pl. 14. f. 177, *b.*), is a small stalk, seated upon the germen, and terminated by the stigma. It varies as to length and form.

Terminal, when it stands on the top of the germen.

Lateral, when attached to the side.

Erect, standing straight; *spreading*, *recurved*, &c.

Persistent, remaining after the fruit is matured.

3. The *Stigma* (Pl. 14. f. 177, *c.*), is the top of the style, which is generally enlarged. It varies greatly in form, and is variously lobed or divided. It is frequently downy, and always more or less moist. The pollen falling upon the stigma influences the seeds contained in the germen, so that they become capable of attaining maturity.

The Fruit.

The Fruit is the germen or ovary arrived at maturity. It is composed essentially of two parts, the *Pericarp* or *Seed-vessel*, and the *Seed.* Many fruits of small size, and having the pericarp closely enveloping the seed, were considered by Linnæus and others as *naked seeds*, but are now known to be true fruits, and not merely seeds. The only naked seeds known are confined to the Pines, Firs, and Cycases.

The *Pericarp*, or part which immediately invests the seed or seeds, and originally formed the germen or ovary, varies extremely in size, thickness, and texture. It is always formed of three parts: the Epicarp, Mesocarp, and Endocarp. The *Epicarp*, is an external thin membrane or skin; the *Mesocarp*, is the layer immediately under the epicarp, and may be thin or thick, dry or juicy; the *Endocarp*, is the innermost membrane, varying in texture, and bounding the cavity which contains the seed. Thus, in the Cherry, the glossy skin is the Epicarp, the pulpy mass is the Mesocarp, and the hard shell covering the seed is the Endocarp.

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Of the very numerous varieties of Fruits, a few may be mentioned:

1. The *Capsule* is a dry seed-vessel, generally of a membranous texture. It frequently splits in a regular manner into several parts when ripe. These parts are called *valves*. Internally it consists of a single cavity, in which case it is called one-celled or unilocular; or of two or more cavities. These cavities or cells are separated by *partitions* or *dissepiments;* and there is often a central stalk or *column*, to which the seeds are attached.

2. The *Pod* or *Siliqua* (Pl. 14. f. 180.) is a long dry seed-vessel, of two pieces or valves, separated by a longitudinal partition, to the edges of which the seeds are alternately attached. When the Pod is as broad as long, it is called a *Pouch* or *Silicula*.

3. The *Legume* (Pl. 14. f. 182.) is a dry elongated seed-vessel, formed of two oblong valves, without any longitudinal partition, and bearing the seeds along one of its margins only.

4. The *Drupe* (Pl. 15. f. 183.) is a seed, covered with a hard endocarp, a fleshy mesocarp, and a membranous epicarp. The fruit of the Rasp or Bramble (Pl. 12. f. 186.) is an aggregation of little drupes.

5. The *Apple* or *Pome* (Pl. 15. f. 184.) is a fleshy fruit, containing a capsule; or rather it is an enlarged fleshy calyx inclosing a membranous or cartilaginous pericarp, divided into several cavities, containing one or more seeds.

6. The *Berry*, *Bacca* (Pl. 15. f. 185.) is a juicy fruit, which contains several seeds, and never bursts.

7. The *Nut* or *Glans* is a one-celled, one-seeded fruit, having a hardened pericarp, surrounded by bracts at the base; as the Hazel-nut, Acorn, and Beech-mast.

8. The *Achenium* is a dry, indehiscent, single-seeded fruit, of which the pericarp does not adhere to the seed, though it may be closely applied to it. It may be solitary, or several may be aggregated together. The so-called naked seeds of the older writers (Pl. 10. f. 126.) are achenia.

In the family of the Compositæ, or such plants as the Thistle, Hawkweed, and Daisy, the achenium is united to the calyx, which is prolonged beyond it, and often forms a tuft or circle of hairs, called the *Pappus* (Pl. 16. f. 204.)

9. The *Caryopsis* is an indehiscent, single-seeded fruit, of which the pericarp is closely adherent to the seed; as in the Grasses—Wheat, Barley, Oats.

The *Pappus* or *Seed-down*, is thus a kind of bristly or feathery crown attached to certain seeds or rather fruits. It is analogous to the calyx of other plants.

Simple, when it consists of undivided hairs.

Feathery, when each of the hairs is subdivided like the shaft of a feather.

Sessile, without a stalk.

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Stipitate or *Stalked.*

Chaffy, when formed of small scales.

10. The *Strobilus* or *Cone* (Pl. 15. f. 188.) is a spike of hardened scales or bracts, each of which has two seeds at its base, on the inner side; the seeds themselves are destitute of pericarp, or naked.

Of the Seed.

The *Seed* is the part of the plant which is destined for its propagation. It often presents two bodies, called *cotyledons* (Pl. 1. f. 4.), which at germination change into leaves. Between these, on the one side, is the *Embryo* or essential part (Pl. 1. f. 4.), consisting of two bodies, one which descends into the earth, becoming a root, and is called the *Radicle* (*f.* 4), the other, or *Caulicle* (*f.*), ascending and becoming the stem and leaves (*g.*) The cotyledons are covered with an *outer* and an *inner* coat. The depression seen externally opposite the place where the embryo lies, is called the *scar*. The seed while growing is attached to the parent plant by a thread called the *podosperm*, which is a branch from the *umbilical cord.*

But many seeds have only one cotyledon, which envelopes the embryo; and others have no cotyledon at all. Hence an arrangement of plants into *Acotyledonous*, *Monocotyledonous*, *Dicotyledonous*, or having no cotyledon, one cotyledon, or two cotyledons.

Some seeds have a cellular, farinaceous mass, of various degrees of hardness, called the *albumen.*

In concluding the subject of the flowers and fruit, it is necessary to mention a few additional circumstances respecting them.

A *complete* flower is one furnished with both calyx and corolla.

An *incomplete* flower is when the corolla is wanting.

A *naked* flower is one destitute of a calyx.

A *perfect* flower is one having both stamens and pistils.

A *staminiferous* or *barren* flower is one having stamens, but destitute of pistils. It is also called a *male* flower.

A *pistilliferous* or *fertile* or *female* flower is one having pistils, but no stamens.

A *neutral* flower is one destitute of both stamens and pistils.

Plants are called *monœcious*, when staminiferous flowers and pistilliferous flowers exist on the same plant.

Diœcious plants are those in which pistilliferous flowers grow on one plant, and staminiferous flowers grow on another plant of the same species.

An *aggregate* flower, is when a number of flowers, generally stalked, and with separated anthers, are inclosed within a common calyx or involucre.

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Of the Receptacle.

The *Receptacle* is the point at which all the parts of a flower meet.

In the compound flowers this part is broad, and requires particular consideration. It is in them

Flat, when perfectly even.

Convex or *Concave*.

Conical, when it rises in the centre.

Smooth, destitute of hairs; *Hairy*, covered with hairs; *Chaffy*, covered with membranous scales; *Dotted*, or *Scrobiculate*, impressed with dots.

CLASSIFICATION AND DESCRIPTION

OF

PLANTS.

PLANTS are so numerous and diversified that it is impossible to acquire any extensive knowledge of them, or even to retain their names, without the aid of arrangement or classification. They have been arranged in various ways. No system proposed has been universally adopted. Changes are always going on even in the best systems; and an individual botanist may alter his mind several times in the course of a moderately long life. As knowledge progresses, one theory overturns another; but what is established by correct observation remains. Facts are thus the only basis of science, and are far more valuable than theories which blaze upon the world to-day and ten years hence are extinguished in the pool of oblivion. Every one, on looking around him in the vegetable world, must perceive that certain plants have so great a resemblance to each other, that they naturally form themselves in the mind into groups. Thus the grasses form a natural family, the leguminous plants another, and so forth. Were the natural affinities of all plants as readily perceived, it would be easy to distribute them into classes; but this is not the case. For this reason the *Natural* arrangement has been substituted by another, called the *Artificial*, which, although it does not proceed upon the principle of natural affinities, yet frequently places together plants which resemble each other in their structure and appearance. At the same time, it very often brings together plants that have no more affinity to each other than a Wolf to a Kangaroo, or even

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a Baboon to a Rat. The artificial arrangement usually adopted by botanists is that of Linnæus.

All the *individuals* which bear a particular and intimate resemblance to each other, constitute a *species*, whether among plants or among animals. Thus, as the latter are generally better known, all the Foxes in the world, of that kind which Englishmen are notorious for chasing with hounds, constitute the species Fox, or Common Fox. All the species which bear a certain more general resemblance to each other constitute a *genus*. Thus the Fox species, the Jackal species, the Wolf species, and the Domestic Dog species, with several others, constitute the genus Dog. All the genera which bear a certain more general resemblance to each other, constitute an *order*. Thus the dog genus, the hyena genus, the cat genus, and others, constitute the order Feræ, or Beasts of Prey. All the orders that resemble each other in certain more general characters, constitute a *class*. Thus the orders Feræ, Ruminating animals, Four-handed animals or Monkeys, and others, form the class Mammalia. So it is with plants.

There are thus, in the Linnæan method, four degrees in classification: the Class, the Order, the Genus, and the Species. The latter, by certain accidental causes, produces *Varieties*. Thus, in animals, the greyhound, the spaniel, and the sheep-dog, are varieties of the Dog species; and in plants, the numerous kinds of apples are produced by varieties of the Crab-Apple Tree. It is very difficult, however, to say what a species is. We generally consider as a species all individuals that propagate together and produce a fertile progeny. But we know that species branch into races, which have a tendency to perpetuate or even increase their distinctive peculiarities; and among plants we cannot always distinguish races from species, or varieties from races. A modern luminary says:—"By species, then, are meant so many individuals as are presumed to have been formed at the creation of the world, and to have been perpetuated ever since." I am unable to find a meaning to this statement; and if "no classification can be made unless the meaning of the term *species* is defined," we must wait a while. In the meantime, however, systems exist, although they are all assuredly unworthy of the majesty of nature; and that of Linnæus is not a bad one for a beginner.

The Linnæan Classes of Plants are twenty-four, and their distinctions are founded upon the number, situation, and proportion, of the stamens.

The first eleven Classes are characterized solely by the *number* of the stamens, and have Greek names expressive of these distinctions. Linnæus, in his fanciful way, considered the stamens as gentlemen, and the pistils as ladies.

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1. MONA'NDRIA.	This class includes all plants having a single stamen in each of their flowers; monandria literally signifying one man.
2. DIA'NDRIA.	Two stamens in each flower.
3. TRIA'NDRIA.	Three stamens.
4. TETRA'NDRIA.	Four stamens.
5. PENTA'NDRIA.	Five stamens.
6. HEXA'NDRIA.	Six stamens.
7. HEPTA'NDRIA.	Seven stamens.
8. OCTA'NDRIA.	Eight stamens.
9. ENNEA'NDRIA.	Nine stamens.
10. DECA'NDRIA.	Ten stamens.
11. DODECA'NDRIA.	From twelve to nineteen stamens.

The next two classes differ from each other with respect to the *situation* of the stamens:

12. ICOSA'NDRIA.	Twenty or more stamens inserted into the calyx.
13. POLYA'NDRIA.	Twenty or more stamens inserted into the receptacle or top of the flower-stalk.

In the next two *proportion* is employed:

14. DIDYNA'MIA.	Two long and two short stamens.
15. TETRADYNA'MIA.	Four long and two short stamens.

The next three have united filaments:

16. MONADE'LPHIA.	Stamens united by their filaments into a tube.
17. DIADE'LPHIA.	Stamens united into two sets.
18. POLYADE'LPHIA.	Stamens united into three or more sets.

The next five are founded upon various circumstances:

19. SYNGENE'SIA.	Stamens united by their anthers into a tube, the flowers compound.
20. GYNA'NDRIA.	Stamens united to the pistil.
21. MONŒ'CIA.	Stamens and pistils in separate flowers, but both kinds of flowers growing on the same plant.
22. DIŒ'CIA.	Staminiferous or male flowers on one plant, and pistilliferous or female flowers on another plant, of the same species.
23. POLYGA'MIA.	Staminiferous flowers, pistilliferous flowers, and perfect flowers, all growing on the same plant, or on different plants of the same kind.

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The last class consists of plants whose organs of fructification are not well ascertained, or differ greatly from those of the preceding classes:

24. CRYPTOGA'MIA.

The *Orders* in the first thirteen classes are founded on the number of the styles, or stigmas, and are named as follows:

MONOGY'NIA.	One style, or sessile stigma.
DIGY'NIA.	Two styles, or sessile stigmas.
TRIGY'NIA.	Three styles.
TETRAGY'NIA.	Four styles.
PENTAGY'NIA.	Five styles.
HEXAGY'NIA.	Six styles.
HEPTAGY'NIA.	Seven styles.
OCTAGY'NIA.	Eight styles.
ENNEAGY'NIA.	Nine styles.
DECAGY'NIA.	Ten styles.
DO'DECAGY'NIA.	About twelve styles.
POLYGY'NIA.	More than twelve styles.

It is unnecessary here to explain the orders of the other classes, as the circumstances on which they are founded will be seen by referring to the following Systematic Arrangement of British Plants.

The *Genera* are characterized by marks taken from the parts of fructification exclusively, that is, from the calyx, corolla, stamens, pistils, fruit, seed, and receptacle.

The *Species* are distinguished from each other by characters taken from any or all the parts of the plant.

The *Generic Character* is of two kinds: the *essential*, which is short, and consists of the more distinctive circumstances; and the *natural*, which consists of a more or less full description of all the organs of fructification.

The *Specific Character* is brief, and consists of the circumstances by which one species is distinguished from every other of the same genus.

An arrangement of the genera of British Plants according to the Natural Method will be found at the end, before the Glossary and Index.

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Veroni'ca Chamæ'drys.
Germander Speedwell.

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METHOD OF EXAMINING PLANTS.

In the following arrangement of British Plants, there is a brief description of each species, by an attentive comparison of which with the plants that one may pick up, he will be enabled to discover their names. The whole are arranged into classes, genera, and species, according to the Linnæan system. We shall suppose that a person commencing the study of British plants, and having made himself acquainted with the different parts of vegetables described and illustrated by figures in the preceding pages, falls in with a specimen of the plant figured on the opposite page.

He has first to glance over the whole plant, beginning with the root and examining all its parts in succession. He will thus find that the root is fibrous; the stem creeping at the base, simple, ascending obliquely, and having a line of hairs on each side; the leaves ovate, sessile, wrinkled, deeply serrate, and more or less hairy; the clusters of flowers lateral, axillar, rising higher than the stem, and having their stalks hairy all round, with lanceolate bracts; the flowers numerous, with a calyx consisting of four lanceolate segments, a very beautiful, large, bright-blue corolla, marked with darker lines, and pale-purple on the back, monopetalous, rotate, divided into four segments, of which the upper is the largest, and the lower the least; two anthers attached to the corolla; a germen crowned by a single thread-shaped style; and an obcordate, compressed capsule, of two cells and four valves, containing numerous roundish seeds.

As there are two stamens, the young botanist turns over the leaves to the class *Diandria;* and as there is only one style, he refers the plant to the order *Monogynia.* In the table of short essential generic characters, he finds that there are ten genera mentioned, namely: *Ligustrum, Fraxinus, Veronica, Pinguicula, Utricularia, Lycopus, Salvia, Circæa, Lemna,* and *Cladium.* He has therefore to find which of these corresponds with his plant. But he observes that there are four divisions marked by asterisks, under which these genera are grouped. He therefore reads the characters of these divisions, and finds that his plant cannot belong to the first, for although it has the flowers inferior, that is, has the calyx and corolla placed under the germen, and monopetalous, yet the corolla is not regular, that is, does not present equal segments. Passing to the next division, he finds it to agree with the plant. He has now to compare it with the characters of the three genera included in this division, and finds it to correspond with those of

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Veronica, inasmuch as it has a "rotate, deeply four-cleft corolla," with the "lower segment smaller," and a "two-celled capsule." The plant therefore belongs to the genus of which *Veronica* is the name.

The species is now to be found, and for this purpose he turns over a few leaves, until he comes to the third genus of the class, viz., in Veronica, where he finds the natural character of the genus, or a particular description of the parts of fructification, which he compares with his plant, and finding them to agree, is satisfied as to the genus. He finds a great number of species described, all of which he would have to compare with his plant until he found one to agree with it, were it not that here, as in the generic table, there are subdivisions, to which asterisks are prefixed, that shorten his labour. To the first of these divisions the plant does not belong, for its flowers are not in *terminal*, but in lateral clusters. He therefore passes on to the next division: *flowers in lateral clusters or spikes*, and as his plant has such flowers, he has only to read the specific characters under that division.

V. Beccabunga has elliptical leaves; *V. Anagallis* has them lanceolate; in *V. scutellata* they are oblong; and therefore it cannot belong to these species. In *V. montana*, the leaves are ovate, which is the case with the plant in hand, but they are stalked, whereas in the plant under examination they are sessile, or at least almost so. In *V. Chamædrys*, they are ovate and sessile, in which respects they agree; deeply serrate also, which is the case; and the stem has two opposite rows of long hairs, which was a circumstance that attracted our notice at our first inspection of the plant. The name of the plant, therefore, is *Veronica Chamædrys*, the latter word being its *specific*, the former its *generic* name. Its English name is seen to be *Germander Speedwell*.

The words "Racemes many-flowered; leaves ovate, sessile, deeply serrate; stem, with two opposite rows of long white hairs," form the *specific character*. After it a brief description of certain parts of the plant is given, together with an indication of its duration, time of flowering, place of growth, and sometimes its uses. Reference is then made to a figure of it in Sir J. E. Smith's *English Botany*, and to a fuller description in the *English Flora* of the same author.

In this manner, the student proceeds with every plant that he may procure. He must not confine his attention merely to the particulars requisite to be known in determining the name of the species. He must, on the contrary, minutely examine the whole plant from the radicles to the ovules, and thus obtain a perfect idea of it, before he opens his book for comparison; and thus, without reference to any system, he will become a good botanist, whatever system he adopts, or even in spite of it. If his system should merely give him the names by which the plants are known to other people it does enough, provided

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he be a good observer. The assistance of a person already somewhat proficient in the science will be useful at the commencement, but is not indispensable. Sometimes a plant may present itself which is not found to belong to the class or order indicated by its stamens and style. In this case there will be found a reference in Italics, at the end of the generic table, to certain genera, by turning to which it will be found. Thus, a plant occurs with one stamen and one style, which we do not find to correspond with the genera *Salicornia*, or *Hippuris*. But we observe, after these genera in the table, reference made to several plants, of which the first is *Centranthus ruber*. We then turn to the Index for Centranthus, and finding that genus at the page indicated, compare our plant with the species, *C. ruber*, when we find it to agree. This is one of the most puzzling circumstances connected with the examination of plants, and arises from the impropriety there would be in separating a species from others of the same genus, although it may happen to differ in the number of stamens or pistils.

With these explanations, it is presumed that the student will be enabled to use the following descriptive arrangement of British Plants. Should a term occur, not included in the preceding account of the parts of plants, it will be found by referring to the glossary at the end of the volume.

The only instruments necessary in the examination of plants, with the view merely of finding out their names, are a sharp-pointed pen-knife, or a pin, or a quill-tube cut like a tooth-pick, for separating the parts of fructification, and a small lens for inspecting the more minute parts.

The Generic and Specific names of plants being in Latin, it has been judged expedient, for the benefit of young botanists, to mark the accented syllables. The following rules for the pronunciation of these words may also be attended to:

1st. The diphthongs *æ* and *œ* are pronounced like the English long *e*.

2d. The letter *e* at the end of a word is always sounded.

3d. The letters *ch* are pronounced hard, like *k*.

4th. In words beginning with *sce* and *sci*, the *c* is soft.

5th. The letters *c* and *g* before *e* and *i*, and before *æ* and *œ*, are soft, but before other vowels hard. In words of Greek origin, however, it is customary with some to make the *g* always hard; as in Monogynia, Syngenesia.

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DIRECTIONS

FOR

PRESERVING PLANTS.

It is unnecessary to enumerate all the advantages resulting from the possession of a collection of preserved plants, as they can be fully appreciated only by a person who has made considerable progress in the study of Botany. But the beginner requires to be informed, that nothing can more materially aid him in his endeavours to become familiar with the objects which vegetation presents to his view than such a collection, to which he can at all times refer, either for refreshing his memory, or for instituting a more minute examination than he had previously made. Plants are generally preserved by drying, and a collection of this kind is called a *Hortus Siccus* or *Herbarium*. Various methods are in use for drying plants, but the following, being among the most simple and efficacious, and attended with little difficulty, is here recommended.

The articles necessary for the accomplishment of the object in view are, a quantity (20 quires perhaps) of smooth, soft paper, moderately bibulous, of large size—18 inches by 11; eight boards of the same size, about an inch thick, of hard wood; four iron weights or pieces of lead, two of them about forty pounds weight, the others half that number. Or in place of these weights a number of clean bricks may be used, or, in short, any heavy bodies of convenient form. Along with these articles, a botanical box, or *vasculum*, is necessary. This box is made of tin, and varies in size, from nine inches to three feet in length, according to the taste and avidity of the collector.

In gathering plants for this purpose, such as are smaller than the size of the paper are to be taken up, roots and all. In many cases, portions only of plants can be preserved, on account of their size, and then the most essential parts are to be selected, including always the flowers. Plants to be preserved are to be gathered in dry weather, and immediately deposited in the tin box, which prevents their becoming shrivelled by evaporation. If gathered in wet weather, they must be laid out for some time on a table or elsewhere to undergo a partial drying. When roots have been taken up along with the stems, they ought to be first washed, and then exposed for some time to the air.

Let us now suppose that a dozen specimens are procured. Over one of the boards lay two or three sheets of the paper, on the uppermost of which spread out the plant to be dried, unfolding its various parts, not however so as to injure its

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natural appearance. A few of the flowers and leaves ought to be laid out with particular care. Over this specimen lay half a dozen sheets of paper, on the uppermost of which lay another plant as before, and so on successively, until they are all disposed of. A few sheets are then laid upon the last, and a board placed over all.

Plants, viewed with reference to drying, may be divided into two classes, the one comprehending those which, being thin, soft, and flexible, require little pressure to reduce them to a level, the other including such as, being stiff and thick, require much pressure. Supposing the above plants to have been of the first class, we lay upon the upper board one of the smaller weights. A series of more stubborn specimens being, in like manner, placed between other two boards, we lay one of the larger weights upon them.

Should more specimens be collected next day, they are disposed of in the same manner, and thus successively. At the end of three days, generally, the plants first laid in are to be taken out, together with the paper about them. They are to be laid in fresh paper, three or four sheets being placed between every two plants, and the whole put between two boards, with a weight over them. The second series is similarly treated next day, and so on. The paper from which the plants have been removed is to be dried for future use.

There will thus be four sets of plants; two in the first stage of drying, and two in the second stage. The plants of the second-stage sets should be taken out about three days after they have been deposited, and, after dry paper has been put about them, returned to their places. The paper may thus be shifted until the plants be perfectly dry, when they are finally removed. Each plant is then placed in a sheet of dry paper, and along with it is deposited a slip of paper, on which are written the name of the plant, the place in which it was gathered, the time of gathering, the soil, and such other circumstances as may tend to elucidate the history of the species. Thus prepared, the plants are packed up in bundles, which gradually enlarge their dimensions, or increase in number, until the end of the season.

Having in this manner prepared a certain number of plants, the collector has now to arrange them. For this purpose he has to procure a quantity of good stout cartridge paper, or of paper coloured blue or gray, together with a much larger quantity of good stout fine white paper, in half sheets, cut along the edges, and about 18 inches by 10 in size. Let a number of narrow slips, of different lengths, be cut from a piece of thin white paper, and let some prepared isinglass, or dissolved gum tragacanth, or gum arabic, be in readiness, together with a camel-hair pencil. Take a dried plant, lay it upon a leaf of the fine white paper, then fasten it down by means of a few of the slips of paper, to which isinglass or gum has been applied, laid

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across the stem and some of the branches. Two or three slips are generally sufficient for a plant or specimen. In this manner all the dried plants destined to form part of the herbarium are treated. At the bottom of the leaf, on the right-hand corner, write very neatly the name of the plant, the place in which it was gathered, the date of gathering, and the name of the collector, or donor, or both. Put all the species of a genus together, in order, and introduce them into a sheet of the somewhat larger cartridge, or coloured paper, on which, at the upper left-hand corner, write the generic name. The collection is kept on the shelves of a cabinet, or in a chest. To prevent the attacks of insects, it is necessary to place beside it a piece of sponge soaked full of rectified oil of turpentine; and to insure it against decay from damp, it ought to be kept in a dry and well-ventilated place.

The above is an orderly method of forming an herbarium; but many other expedients are resorted to. Most plants dry sufficiently well between the leaves of old books, and many collectors save themselves the trouble of forming a neat collection by huddling up their specimens in the least expensive or laborious manner. Nothing can be more offensive than an ill-preserved, ill-arranged collection, scrawled over with sprawling ink lines, meant to represent italic letters. Whoever intends making a collection ought to procure the best materials at the commencement, keep everything in its place, attend to method and uniformity, and destroy all unsuitable specimens.

Some persons keep their specimens loose within sheets of paper. This method is the most convenient for the minute examination of the plants, but has disadvantages which render it inexpedient in ordinary cases.

In fine, there is no mystery, nor even much art, in drying plants very perfectly, and putting them up very neatly. The skill and ingenuity requisite are slight, compared with those applied in making anatomical preparations, or in preserving zoological specimens. Patience, constant attention, some taste, and a good deal of enthusiasm, will enable one to make, what, however, one seldom sees, a good herbarium.

A collection of plants does not make a botanist, and there are some philosophic spirits who would disdain occupations of this kind; but, on the other hand, there never was a good botanist who had not an extensive collection; and it is a sure fact that all the best botanists—the De Candolles, Linnæuses, Jussieus, Browns, Hookers, Lindleys, Sprengels, Endlichers—depended greatly upon their herbaria for their knowledge and renown.

And, truly, a pleasant thing it is to inspect the fasciculi of one's herbarium in a long winter evening, with a friend of like tastes, or even without. How many recollections crowd upon the mind, of perils in the craggy corries of Lochnagar and Braeriach, rambles in the Lochlomond woods, pleasant walks in

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the cultivated tracts of the south, and romantic boat excursions among the foam-girt isles of the north! How many kind friends have their names enrolled in the herbarium! It is, in truth, a sacred depository—sacred to piety and virtue. Fewer naturalists have been bad members of society than of any other profession whatever—the clerical not at all excepted.

EXPLANATION OF THE PLATES.

PLATE I. Fig. 1. Structure of wood, after Mirbel:—*a*, hexagonal cells: *b*, *c*, *d*, tubes of woody tissue; *d*, *d*, larger tubes of porous or pitted tissue; *e*, *e*, spiral vessels. Fig. 2. Embryo of *Pinus Cembra*, and as seen in a section of the seed, also separate, and magnified. Fig. 3. Seedling plant of *Araucaria*, the Norfolk Island Pine, with its four cotyledons, and leafy branches. Fig. 4. A garden Bean, *Faba vulgaris*, laid open, to show its two cotyledons, the radicle, *f*, and the caulicle or plumule, *g*; also, a bean germinating, in which are seen the split testa or covering of the seed, the axis, or radicle, and caulicle, with the gemmule of rudimentary leaves.

PLATE II. Roots and stems. Fig. 5. Fibrous Root of a grass. Fig. 6. Creeping Root-stem of Mint. Fig. 7. Fusiform or Tapering Root of a Radish, with the two cotyledons and young leaves. Fig. 8. Abrupt Root of *Scabiosa succisa*. Fig. 9. Tuber. Fig. 10. Oval Root-knobs of an *Orchis*. Fig. 11. Palmate Root-knobs of an *Orchis*. Fig. 12. Digitate Root-knobs of an *Orchis*. Fig. 13. Cornus of *Crocus*. Fig. 14. Tunicate Bulb of *Allium*. Fig. 15. Scaly Bulb of *Lilium*. Fig. 16. Granulated Root of *Saxifraga granulata*.

PLATE III. Stems and Buds. Fig. 17. Forked stem of *Chlora perfoliata*. Fig. 18. Scaly stem of *Orobanche*. Fig. 19. Radicant stem of Ivy. Fig. 20. Twining from left to right, in *Lonicera*. Fig. 21. Twining from right to left, in *Convolvulus*. Fig. 22. *Sarmentum*, or Runner, of *Fragaria vesca*. Fig. 23. Stem determinately branched, in *Azalea*. Fig. 24. Three pairs of Buds, in *Lonicera cærulea*. Fig. 25. Bud of *Æsculus Hippocastanum*.

PLATE IV. Leaves. Fig. 26. Tufted. Fig. 27. Imbricate. Fig. 28. Decussate. Fig. 29. Distichous, or Two-ranked, in the Yew. Fig. 30. Secund or Unilateral. Fig. 31. Peltate, in Nasturtium. Fig. 32. Amplexicaul or Clasping. Fig. 33. Perfoliate. Fig. 34. Vaginant or Sheathing. Fig. 35. Equitant or Riding. Fig. 36. Decurrent and spinous. Fig. 37. Flower-bearing, in *Ruscus aculeatus*.

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These plates are those of Sir J. E. Smith's Introduction to Botany, a classical work, which greatly tended to promote its study.

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A
SYSTEMATIC ARRANGEMENT
OF
BRITISH PLANTS.

CLASS I. MONANDRIA.

Plants bearing Flowers with one Stamen only.

Order I. MONOGYNIA. *One Pistil.*

1. SALICOR'NIA. *Perianth* single, fleshy, undivided, imbedded in an excavation of the rachis. *Stamens* 1 or 2. *Stigma* bifid or trifid. *Fruit* a utricle, invested by the enlarged perianth.
2. HIPPU'RIS. *Perianth* single, adherent, forming an indistinct rim to the ovary. *Stigma* simple. *Fruit* inferior, 1-seeded.

(Centranthus ruber. Alchemilla arvensis. Festuca uniglumis, and bromoides.)

MONANDRIA.—MONOGYNIA.

1. SALICOR'NIA. Linn. SALTWORT.

Perianth turbinate, undivided, tumid, permanent. Stamens 1 or 2, longer than the perianth, anther oblong, 2-lobed, erect. Germen ovate, under the stamen; style short, undivided; stigma cleft. Fruit a utricle, invested by the calyx.—Name from *sal*, salt, and *cornu*, a horn. 1.

1. **S. herba'cea.** L. *Common Jointed Glasswort* or *Saltwort. Marsh Samphire.* Stem herbaceous, erect; joints compressed, notched, their intervals somewhat enlarged upwards; spikes slightly tapering upwards.——*About* a foot high; stem bushy, green, the branches nearly cylindrical: spikes of numerous short joints, each bearing three sessile flowers on two opposite sides. Annual: flowers in August and September: grows on muddy or moist sandy sea-shores; frequent in England and Ireland, not common in Scotland. Has a saltish taste, is eaten by cattle, and makes a good pickle. The various species of this genus are employed on the coasts of the Mediterranean for making barilla. *Eng. Bot.* vol. vi. pl. 415. *Eng. Fl.* vol. i. p. 2. A variety with procumbent stems has been described as a distinct species, under the name of *S. procum'bens* *Eng. Bot.* vol. xxxv. pl. 2475. *Eng. Fl.* vol. i. p. 2. 1.

2. **S. ra'dicans.** Sm. *Creeping Jointed Glasswort* or *Saltwort.* Stem woody, procumbent and rooting at the base, erect above; joints compressed, notched, their intervals somewhat cylindrical;

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spikes oblong; stamens 2.——*About* a foot long; upper part of the stem herbaceous and erect with opposite branches: spikes obtuse: stigma deeply divided into 2 or 3 segments. Perennial: flowers in August and September: grows on muddy sea-shores: Norfolk, Sussex, and Isle of Sheppey: not frequent. *Eng. Bot.* vol. xxiv. pl. 1691. *Eng. Fl.* vol. i. p. 3. 2.

2. HIPPU'RIS. Linn. MARE'S-TAIL.

Perianth single, superior, forming a slight border to the germen. Filament superior, longer than the calyx; anther 2-lobed, compressed. Style subulate; stigma simple, acute. Fruit 1-celled, 1-seeded.—Name from ἵππος, a horse, and οὐρά, a tail. 2.

1. **H. vulga'ris. L.** *Mare's-tail.* Leaves linear, in whorls.——*From* one to two feet high: root creeping: stem erect, simple, jointed: leaves linear, smooth, acute, arranged in numerous whorls, each consisting of about twelve leaves: flowers axillar, solitary, sessile: germen ovate: anther very large, red. Perennial: flowers in May and June: grows in pools and marshes: common in Scotland as well as in England. *Eng. Bot.* vol. xi. pl. 763. *Eng. Fl.* vol. i. p. 4. 3.

CLASS II. DIANDRIA.

Plants bearing Flowers with two Stamens.

Order I. MONOGYNIA. *One Pistil.*

* *Flowers inferior, of one petal, regular.*

1. LIGU'STRUM. *Corolla* 4-cleft. *Berry* 2-celled; cells 1 or 2-seeded.
2. FRA'XINUS. *Corolla* none, or deeply 4-cleft. *Fruit* compressed, 2-celled, 2-seeded.

** *Flowers inferior, of one petal, irregular; seeds inclosed in a seed-vessel.*

3. VERONI'CA. *Corolla* rotate, deeply 4-cleft, lower segment smaller. *Capsule* 2-celled.
4. PINGUI'CULA. *Corolla* ringent, spurred. *Capsule* 1-celled. *Calyx* 5-cleft, 2-lipped.
5. UTRICULA'RIA. *Corolla* masked, spurred. *Capsule* 1-celled. *Calyx* bipartite.

*** *Flowers inferior, of one petal, irregular; four achenia.*

6. LY'COPUS. *Corolla* tubular, nearly equal, 4-cleft; upper segment notched. *Stamens* distant, simple. *Calyx* tubular, 5-cleft.
7. SA'LVIA. *Corolla* ringent. *Filaments* transversely attached to a foot-stalk. *Calyx* 2-lipped.

**** *Flowers superior.*

8. CIRCÆ'A. *Corolla* of 2 petals. *Calyx* of 2 leaves. *Capsule* 2-celled; cells 1-seeded.

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***** *Flowers destitute of petals.*

9. LE'MNA. *Calyx* of one piece, membranaceous. *Capsule* 1-seeded.

10. CLA'DIUM. *Glumes* 1-flowered, imbricated; the outer ones empty; destitute of bristles at the base.
(*Salicornia. Ruppia. Rhynchospora alba. Carex.*)

Order II. DIGYNIA. *Two Pistils.*

11. ANTHOXA'NTHUM. *Spikelets* of one perfect central flower, and two outer neuter. *Glumes* 2, very unequal. *Glumellas* 2, awnless: of the neuter flowers single, awned.
(*Bromus diandrus.*)
(Diandria trigynia. *Isolepis setacea.*)

DIANDRIA.—MONOGYNIA.

1. LIGUS'TRUM. Linn. PRIVET.

Calyx inferior, tubular, with 4 upright blunt teeth. Corolla funnel-shaped, with the limb expanded, and divided into 4 deep ovate segments. Stamens opposite, in the mouth of the tube. Germen oval; style very short; stigma thick, cleft. Berry globular, 2-celled, with two seeds in each cell. Seeds convex on one side, angular on the other.—Name from *ligo*, to bind. 3.

1. L. vulga're. L. *Common Privet, Prim,* or *Print.* Leaves between elliptical and lanceolate, obtuse, with a small point; flowers in dense terminal panicles.——*A* small shrub. Leaves opposite, nearly sessile, dark green, frequently remaining through the winter; flowers white, small: berries globose, black, bitter and nauseous. Flowers in June and July: grows in hedges and copses, in gravelly and chalky soil. Rocks of Dunnerholme, and above Cartmel Wells. Used for low hedges, especially in gardens. It grows fast, and may be raised from cuttings. *Eng. Bot.* vol. xi. pl. 764. *Eng. Fl.* vol. i. p. 13. 4.

2. FRA'XINUS. Linn. ASH.

Calyx none, or in 4 deep segments. Corolla none, or in 4 deep segments. Filaments short; anthers large, with four furrows. Germen superior, ovate, 2-celled; style short; stigma cleft. Fruit lanceolate, flat.—Name from φραξις, separation, on account of the ease with which the wood may be split. 4.

1. F. excel'sior. L. *Common Ash.* Leaves pinnate, with lanceolate, serrate leaflets; flowers destitute of calyx and corolla.——*A* very beautiful tree, with smooth, gray bark, large black buds, and pinnate leaves. In old trees, the lower branches, after turning downwards, curve upwards at their extremities; leaves stalked, consisting of five or six pairs of lanceolate, nearly sessile, opposite leaflets, with a terminal one: flowers in loose panicles: anthers large, purple: fruit (a samara) with a flat leaf-like termination, and generally of two cells, each containing a flat oblong seed. It assumes its foliage later than any of our trees, and loses it early;

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the capsules generally fall soon, but sometimes remain through the winter. A variety, *F. heterophylla* of some botanists, occurs with simple leaves, and another with drooping branches. Flowers in April and May; grows in natural woods in many parts of Scotland, and is cultivated in woods and hedges. The wood, which is whitish and tough, is employed for numerous purposes in domestic and rural economy, and the leaves, it is said, are eaten by cattle, but communicate a disagreeable taste to butter. *Eng. Bot.* vol. xxiv. pl. 1692. *Eng. Fl.* vol. i. p. 14. 5.

3. VERONI'CA. Linn. SPEEDWELL.

Calyx inferior, with 4 unequal segments, permanent. Corolla rotate, permanent; its limb divided into 4 unequal segments, of which the lower is smallest. Filaments spreading, tapering downwards; anther oblong. Germen compressed: style filiform, declining, as long as the stamens; stigma small, notched. Capsule more or less obcordate, compressed, 2-celled, 4-valved. Seeds numerous, roundish.—Name said to have been altered from *Betonica*. 5.

* *Flowers in terminal clusters or spikes.*

1. **V. serpyllifo'lia.** L. *Smooth* or *Thyme-leaved Speedwell.* Raceme somewhat spiked; leaves ovate, slightly crenate; capsule inversely cordate, shorter than the style.——*Root* of long white fibres: stem about five inches high, decumbent and rooting at the base, branched, leafy: leaves opposite, with short stalks, slightly hairy, 3-nerved: bracts elliptical: flowers of a delicate pale blue, reddish before they are fully expanded, with deep blue lines. An alpine variety of this species, with prostrate stems and short racemes of a few beautiful blue flowers, has been described under the name of *V. humifusa.* Perennial: flowers in May and June: pastures and road-sides: common. The alpine variety common on elevated mountains in Scotland. *Eng. Bot.* vol. xv. pl. 1075. *Eng. Fl.* vol. i. p 20. 6.

2. **V. alpi'na.** L. *Alpine Speedwell.* Raceme corymbose; leaves elliptical, or ovate, somewhat serrate; capsule obovate, longer than the style.——*Root* creeping: stem about four inches high, simple, ascending, rooting at the base, leafy: leaves opposite, smooth, nearly sessile: bracts and segments of the calyx ciliated: flowers bright blue. Perennial: flowers in June and July: grows by the margins of rills, near the summits of mountains in the Highlands: Ben Nevis, Ben Lawers, Ben Lomond, Ben-na-buird, &c. *Eng. Bot.* vol. vii. pl. 484. *Eng. Fl.* vol. i. p. 19. 7.

3. **V. saxa'tilis.** L. *Rock Speedwell.* Raceme corymbose, few-flowered; leaves elliptical, subserrate; stems spreading; capsule ovate, longer than the calyx.——*Three* or four inches long: stems decumbent at the base, woody, branched; leaves opposite, small, elliptical, the upper ones oblong, or obovate, slightly serrate towards the end, dark green, smooth: flowers from 3 to 7: corolla large, deep blue, with the throat red: flower stalks much longer than the bracts. Perennial: flowers in June and July: grows on rocks, on some of the higher mountains in Scotland: Ben Lawers, Meal Greadha, Craig-Chailleach, &c. *Eng. Bot.* vol. xv. pl. 1027. *Eng. Fl.* vol. i. p. 19. 8.

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4. **V. spica'ta.** L. *Spiked Speedwell.* Raceme spicate, conical, many-flowered; leaves opposite, elliptical, obtuse, unequally and bluntly serrate; stem ascending, or branched only at the base.——*From* four to eight inches high: stem simple: capsule ovate, emarginate: leaves downy, broader on the lower part of the stem, and stalked, the uppermost narrow: flowers nearly sessile, deep blue: bracts linear. A variety of this plant, characterized by its greater luxuriance, and its broader, almost elliptical stem leaves, has been described under the name of *V. hybrida.* Perennial: flowers from July to September; grows in dry pastures: rare. Newmarket Heath, about Bury St. Edmund's, and other parts of England. *Eng. Bot.* vol. i. pl. 2. *Eng. Fl.* vol. i. p. 17. 9.

(*V. fruticulosa,* said to have been found on Ben Cruachan and Ben Lawers, has not been met with anywhere of late years.)

** *Flowers in lateral clusters or spikes.*

5. **V. Beccabu'nga.** L. *Short-leaved Water Speedwell,* or *Brooklime.* Racemes opposite; leaves elliptical, obtuse, somewhat serrate, smooth; stem procumbent, rooting at the base.——*The* whole plant succulent and glossy: stems generally floating: flowers blue, in long stalked racemes. Perennial: flowers in June and July: grows in brooks and in ditches with running water: common. *Eng. Bot.* vol. x. pl. 665. *Eng. Fl.* vol. i. p. 20. 10.

6. **V. Anaga'llis.** L. *Long-leaved Water Speedwell,* or *Brooklime.* Racemes opposite; leaves lanceolate, acute, distinctly serrate, smooth; stem erect.——*The* whole plant succulent and glossy: stems from one to three feet high: flowers pale blue, frequently purplish. Perennial: flowers in June and July: brooks, ditches, and pools: not so common as the last. *Eng. Bot.* vol. xi. pl. 781. *Eng. Fl.* vol. i. p. 21. 11.

7. **V. scutella'ta.** L. *Narrow-leaved Marsh Speedwell.* Racemes alternate; leaves oblong or linear, somewhat toothed; fruit-stalks bent backwards.——*The* whole plant slender: stems weak, spreading, sometimes decumbent and rooting, from nine to twelve inches high: leaves sometimes entire at the margin: fruit-stalks remarkably spreading or divaricate: flowers flesh-coloured, streaked with blue. Perennial: flowers in June and July: grows in marshy places with gravelly soil: not common. *Eng. Bot.* vol. xi. pl. 782. *Eng. Fl.* vol. i. p. 21. 12.

8. **V. monta'na.** L. *Mountain Speedwell.* Racemes elongated, few-flowered; leaves ovate, serrate. stalked; stem hairy all round, ——*Root* fibrous: stems weak, decumbent, leafy: leaves deeply serrate, thin, shining, slightly hairy: clusters loose: flowers pale blue, with purple lines: capsule with two orbicular lobes, compressed with a sharp ciliated margin. Perennial: flowers in May and June: moist woods: not unfrequent. *Eng. Bot.* vol. xi. pl. 766. *Eng. Fl.* vol. i. p. 23. 13.

9. **V. Chamæ'drys.** L. *Germander Speedwell.* Racemes many-flowered; leaves ovate, sessile, deeply serrate; stem with two opposite rows of long hairs.——*Stems* decumbent at the base, marked with two lines of long whitish hairs, which change sides between each pair of leaves: leaves wrinkled and hairy, with large

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serratures: clusters long, shooting up beyond the stem: flowers large, bright blue, with deeper streaks, externally pale purple: capsule inversely cordate. Perennial: flowers in May and June: grows on dry banks, under hedges, in open pastures and in woods: common. The infusion of this species and *V. officinalis* has been uselessly recommended as a substitute for tea. *Eng. Bot.* vol. ix. pl. 623. *Eng. Fl.* vol. i. p. 23. 14.

10. **V. officina'lis.** L. *Common Speedwell.* Racemes spicate; leaves broadly elliptical, serrate, rough with short hairs; stem procumbent, hairy.——*Stems* prostrate, rooting at the base, from six to eighteen inches long: leaves with short stalks, stiffish, pale green: spikes of numerous light blue or purplish flowers, veined with deeper blue: partial flower-stalks shorter than the bracts: capsule obcordate. Perennial: flowers in May and June: grows on dry banks, in open pastures, on heaths, and in dry woods: not uncommon. *Eng. Bot.* vol. xi. pl. 765. *Eng. Fl.* vol. i. p. 22.—An alpine variety occurs in some parts of Scotland and Ireland. It differs in being entirely destitute of hairs, and in having a much denser spike of deep blue flowers. *Eng. Fl.* vol. i. p. 22.

Another variety with leaves between elliptical and lanceolate, obovate, and undivided capsule, found in dry heathy places, in the district of Carrick, Ayrshire, by Mr. James Smith, and in various parts of Scotland by others, has been described under the name of *V. hirsuta.* *Eng. Fl.* vol. i. p. 23. 15.

*** *Flowers solitary.*

11. **V. agres'tis.** L. *Green procumbent Chickweed Speedwell.* Leaves all stalked, ovate, deeply serrate, the lower ones opposite; flower-stalks about equal to the leaves in length, curved, when in fruit; corolla shorter than the calyx; seeds cupped.——*Root* small: stems hairy on two opposite sides, branched at the base, spreading; leaves broad, ovate, or cordato-ovate, with short stalks: corolla small, pale blue: capsule two-lobed, tumid, rough, with about six seeds. Annual: flowers from April to September: grows in cultivated fields: common. *Eng. Bot. Suppl.* pl. 2603. *Eng. Fl.* vol. i. p. 24. 16.

12. **V. poli'ta.** Fr. *Grey procumbent Chickweed Speedwell.* Leaves all stalked, between ovate and cordate, deeply serrate, the lower ones opposite; flower-stalks about the length of the leaves, curved when in fruit; corolla shorter than the calyx; seeds cupped. ——*Stems* procumbent, spreading, hairy: corolla dark blue, veined: capsule 2-lobed, tumid, with many seeds. Distinguished from *V. agrestis,* of which it is perhaps a variety, principally by its bright blue flower, and many-seeded capsule. Annual: flowers from April to September: grows in cultivated fields: not very uncommon. *V. didyma, Koch. Fl. Germ.* 531. *V. agrestis, Eng. Bot.* vol. xi. pl. 783. *Eng. Fl.* vol. i. p. 24. 17.

13. **V. Buxbau'mii.** Tenor. *Buxbaum's Speedwell.* Leaves all stalked, between ovate and cordate, deeply serrate; flower-stalks longer than the leaves, always straight, or slightly curved at the tip when in fruit; corolla longer than the calyx; seeds cupped.——*Stems* one or two feet long, procumbent, spreading, covered with soft white hairs: corolla very large, light blue, streaked with darker

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lines: capsule inversely heart-shaped, with four or five seeds in each cell. Differs from the two preceding in its larger size and greater hairiness, as well as its larger corolla. Annual: flowers from August to October: grows in cultivated grounds where it has been introduced: rare. First described as British by Dr. Johnstone, who found it near Berwick-on-Tweed. Oxfordshire; Kent; Norfolk; Northumberland. About Edinburgh, Glasgow, Dunfermline, Aberlady, &c. *Eng. Bot. Suppl.* pl. 2769. *Brit. Fl.* 4th ed. p. 7. 18.

14. **V. arven'sis.** L. *Wall Chickweed Speedwell.* Leaves cordate, broadly serrate, lower ones stalked, upper lanceolate, sessile. ——*Stems* nearly erect: leaves nearly sessile: corolla small, pale blue, with deeper lines: capsule obcordate, compressed, ciliated. Although the leaves gradually become smaller, and may ultimately be considered as bracts, the flowers are in reality no more epicate or racemose than in *V. agrestis.* Annual: flowers in May and June: on the tops of walls, in dry fields, and among rubbish: common. *Eng. Bot.* vol. xi. pl. 734. *Eng. Fl.* vol. i. p. 24. 19.

15. **V. hederifo'lia.** L. *Ivy-leaved Chickweed Speedwell. Small Henbit.* Leaves broadly cordate, 5-lobed; segments of the calyx cordate, acute, ciliated; seeds cupped, wrinkled.——*Stems* procumbent, spreading: leaves flat, generally 5-lobed, the upper 3-lobed; flowers small, pale blue, with deeper lines: capsule 2-lobed, turgid, each lobe with two seeds, sometimes only one. Annual: flowers from March to December: grows in cultivated fields, under hedges, in woods, and among rubbish: common. *Eng. Bot.* vol. xi. pl. 784. *Eng. Fl.* vol. i. p. 25. 20.

16. **V. triphyl'los.** L. *Upright* or *Trifid Chickweed Speedwell.* Leaves broadly ovate, upper with finger-like divisions; fruit-stalks longer than the calyx; seeds flat.——*Stem* three or four inches high, branched at the base: lower leaves undivided, opposite; upper in three or five segments, alternate: flowers deep blue: capsule obcordate, compressed, hairy: style very short: seeds ovate. Annual: flowers in April and May: grows in sandy fields: very rare. Norfolk and Suffolk. *Eng. Bot.* vol. i. pl. 26. *Eng. Fl.* vol. i. p. 26. 21.

17. **V. ver'na.** L. *Vernal Chickweed Speedwell.* Leaves pinnatifid; uppermost lanceolate; fruit-stalks shorter than the calyx; seeds flat.——*Stem* from two to four inches high: leaves deeply divided, the middle segment larger; the divisions become less numerous as the leaves ascend on the stem, the upper being simple: flowers small, light blue, with deeper lines: capsule inversely heart-shaped, compressed, downy and ciliated. Annual: flowers in April: grows in sandy fields; very rare. First found by Sir John Cullum, about Thetford and Bury, Suffolk. *Eng. Bot.* vol. i. pl. 25. *Eng. Fl.* vol. i. p. 26. 22.

5. PINGUI'CULA. Linn. BUTTERWORT.

Calyx small, 2-lipped, permanent; upper lip erect, 3-cleft; lower reflected, cleft. Corolla ringent, having the margin irregularly 5-cleft, with a spur behind. Filaments cylindrical; anthers roundish. Germen globose; style very short; stigma

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with 2 unequal lips. Capsule ovate, 1-celled. Seeds numerous, cylindrical.—Named from *pinguis*, fat; on account of the greasy appearance of the leaves. 6.

1. **P. grandiflo'ra.** Willd. *Large-flowered Butterwort.* Spur sub-cylindrical, notched, as long as the limb of the corolla; middle segment of the lower lip notched; capsule ovate.——*Larger* than *P. vulgaris;* leaves pale greenish-yellow: stalks from six to nine inches high: corolla deep purple, reticulated all over with dark blue veins. This differs so little from the next that it scarcely deserves to rank as a species. Perennial: flowers in May: grows on bogs in the western part of the county of Cork, where it was discovered by Mr. Drummond; also near Kenmare, Ireland. *Eng. Bot.* pl. 2184. *Eng. Fl.* vol. i. p. 28. 23.

2. **P. vulga'ris.** L. *Common Butterwort.* Spur sub-cylindrical, acute, as long as the limb of the corolla, upper lip 2-lobed, lower divided into 3 segments; capsule ovate.——*Whole* plant smooth, covered with small transparent grains: leaves radical, egg-shaped, fleshy, with the edges involute, pale green: flowers drooping, deep purple: scape slightly hairy towards the top. Perennial: flowers in June: grows in marshy places, and especially on wet heaths: common in the north of England, in Ireland, and in all parts of Scotland. It is imagined to cause diseases in sheep, but it appears not to be eaten by these animals or other cattle. *Eng. Bot.* vol. i. pl. 70. *Eng. Fl.* vol. i. p. 28. 24.

3. **P. alpi'na.** L. *Alpine Butterwort.* Spur conical, slightly curved, shorter than the limb of the corolla; middle segment of the lower lip slightly retuse; capsule conical; stalk nearly smooth.——*Leaves* oblong, thin, less transparent than in *P. lusitanica*, pale green, sometimes tinged with purple; flowers yellowish, "white, with two lemon-yellow spots on the base of the middle lobe of the lower lip, often confluent." Koch. 578. Perennial: found by the Rev. George Gordon, in 1831, in the bogs of Auchterflow and Shannon, Rosehaugh, Ross-shire; Isle of Skye; first determined by Mr. Hewett Watson as a British species, and described by Dr. Graham. *Eng. Bot. Suppl.* pl. 2747. *Brit. Fl.* 4th ed. vol. i. p. 8. 25.

4. **P. lusita'nica.** L. *Pale Butterwort.* Spur curved, obtuse, shorter than the limb of the corolla, the divisions of which are nearly equal; capsule globose; scape hairy.——*Whole* plant villous: leaves ovate, thin, somewhat translucent, involute at the edges, very pale green, veined with purple: flowers pale purple or rose-colour. Perennial: flowers in June: grows in marshy places and wet heaths: Dorsetshire, Hampshire, Devonshire, and Cornwall: plentiful in Ireland: in many parts of the Highlands and Hebrides much more abundant than the common Butterwort. The two species are readily distinguished by their general appearance; *P. lusitanica* being much more delicate and paler than the other. *Eng. Bot.* vol. iii. pl. 145. *Eng. Fl.* vol. i. p. 28. 26.

5. UTRICULA'RIA. Linn. BLADDERWORT.

Calyx of 2 small, ovate, nearly equal lobes. Corolla personate; upper lip flat, obtuse, erect; lower lip with a prominent heart-shaped palate; spur projecting from the base. Stamens

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short; anthers small, adhering together. Germen globose; style filiform, as long as the calyx. Capsule large, globose, 1-celled. Seeds numerous, small.—Name from *utriculus*, a little bladder. 7.

1. **U. vulga'ris.** L. *Greater Hooded Water Milfoil*, or *Bladderwort*. Spur conical, obtuse; upper lip of the corolla as long as the palate; leaves divided into numerous segments; vesicles attached to the leaves.——*Stems* much branched, lying prostrate in the water: leaves small, with very slender divisions, having minute prickles at the margin. Scape erect, round, bearing from three to eight bright yellow flowers, arranged in a bunch: lower lip much larger than the upper, with a projecting palate closing the mouth: spur curved, rather obtuse: the leaves are covered with numerous vesicles, having an aperture closed by a valve, and its margin armed with bristles. In the early stages these vesicles are filled with water, and when it becomes necessary for the plant to rise and expand its flowers in the air, they become filled with air: after some time the air in the vesicles is substituted by water, and the plant descends to ripen its seeds. Perennial: flowers in July: grows in ditches and pools: frequent. *Eng. Bot.* vol. iv. pl. 253. *Eng. Fl.* vol. i. p. 30. 27.

2. **U. interme'dia.** Hayne. *Middle Hooded Water Milfoil*, or *Bladderwort*. *Spur* conical, acute; upper lip of the corolla double the length of the palate; leaves divided into 3 linear forked segments, vesicles on leafless branches.——*Smaller* than the former: leaves repeatedly forked: flowers smaller and paler: bladders on branched stalks, not on the leaves. Perennial: flowers in July: grows in ditches and pools: not common. About Bantry and Dublin, in Ireland; lake near Forfar, and various parts of Aberdeenshire and Morayshire; also in Lewis and Harris. *Eng. Bot.* vol. xxxv. pl. 2489. *Eng. Fl.* vol. i. p. 30. 28.

3. **U. mi'nor.** L. *Lesser Hooded Water Milfoil*, or *Bladderwort*. *Spur* very short, obtuse, keeled; upper lip as long as the palate; leaves divided into 3 linear segments, which are again similarly divided; corolla with the lower lip nearly flat.——*Smaller* than the last: flowers about five, pale yellow: palate not projecting, the mouth being open. Perennial: flowers in July: grows in ditches and pools: not common. Somersetshire, Norfolk, Cumberland, Westmoreland: common in some parts of Ireland and Scotland. *Eng. Bot.* vol. iv. pl. 254. *Eng. Fl.* vol. i. p. 31. *Fl. Scot.* p. 9. 29.

6. LY'COPUS. Linn. GIPSYWORT.

Calyx tubular, with 5 acute segments. Corolla tubular, with 4 segments, the upper broader and notched. Stamens simple, longer than the corolla, bent; anthers small. Germen 4-cleft; style thread-shaped, as long as the stamens; stigma cleft. Achenia 4, obovate, at the bottom of the permanent calyx.—Name from λυκος, a wolf, and πους, a foot. 8.

1. **L. europæ'us.** L. *Water Horehound. Gipsywort.* Leaves deeply serrate.——*Two* feet high: allied to the genus Mentha, &c., and like it having a four-cornered stem: leaves opposite, narrow, ovate, wrinkled, very deeply serrate: flowers whitish, in dense whorls. Perennial: flowers from July to September: grows on the

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banks of pools and brooks in gravelly soil: common in England and Ireland; less frequent in Scotland. *Eng. Bot.* pl. 1105. *Eng. Fl.* vol. i. p. 34. 30.

7. SALVIA. Linn. SAGE.

Calyx tubular, ribbed, with 2 unequal lips. Corolla having the tube dilated upwards, compressed; upper lip concave; lower lip broad, 3-lobed, the middle lobe largest, notched. Stamens with two spreading branches, one of which bears a single cell of an anther. Germen 4-cleft, style thread-shaped, curved; stigma cleft. Achenia 4, roundish, in the bottom of the calyx. —Name from *salvo*, to heal. 9.

1. **S. praten'sis.** L. *Meadow Sage*, or *Clary*. Leaves oblong, cordate at the base, crenate, the upper ones embracing the stem; whorls nearly leafless; upper segment of the corolla clammy.——*A* beautiful plant, about three feet high, with large purple flowers: leaves wrinkled: whorls of six flowers, scarcely longer than the floral leaves. Perennial: flowers in July: grows in dry pastures and by hedges; rare; and probably introduced. Near Cobham, in Kent; common in Surrey and Sussex; Wick-cliffs, Gloucestershire; between Middleton, Stoney, and Audley, Oxfordshire. *Eng. Bot.* vol. iii. pl. 153. *Eng. Fl.* vol. i. p. 34. 31.

2. **S. Verbena'ca.** L. *Wild Sage*, or *Clary*. Leaves ovate, serrate, sinuate; corolla narrower than the calyx.——*From* one to two feet high: stem decumbent at the base: lower leaves ovate, stalked: upper narrower, more acute, sessile: flowers small, purple: upper lip concave, compressed; lower 3-lobed: floral leaves as long as the calyx. Perennial: flowers in June and July: grows in dry pastures and on banks, in gravelly soil: not uncommon in England and Ireland; coast of Fife, &c.; King's Park, Edinburgh. *Eng. Bot.* vol. iii. pl. 153. *Eng. Fl.* vol. i. p. 34. 32.

8. CIRCÆ'A. Linn. ENCHANTER'S NIGHT-SHADE.

Calyx superior, tubular at the base; the limb with 2 ovate deflected segments. Petals 2, obcordate, equal. Filaments hair-like, as long as the calyx; anthers roundish. Germen roundish; style threadlike; stigma dilated, notched. Capsule obovate, covered with hooked hairs, 2-celled, each cell 1-seeded. Seeds oblong.—Named from the enchantress *Circe*. 10.

1. **C. alpi'na.** L. *Mountain Enchanter's Night-shade.* Stem ascending, smoothish, leaves cordate, toothed, shining.——*Root* spreading: whole plant nearly smooth: stem prostrate at the base, red: leaves pale-green, delicate: flowers rose-coloured, in short, terminal, and axillar branches: smaller than the next species. Perennial: flowers in July and August: grows in shady places, in woods, and among stones, in the lower parts of mountainous districts. Lancashire, Westmoreland, and Cumberland; Lochbroom, shores of Loch Ness and Loch Tay, and many of the Highland glens. *Eng. Bot.* vol. xv. pl. 1057. *Eng. Fl.* vol. i. p. 16. 33.

2. **C. lutetia'na.** L. *Common Enchanter's Night-shade.* Stem erect, hairy; leaves ovate, denticulate.——*Root* spreading, difficult

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to be extirpated: stem little branched, generally with a solitary, terminal bunch of flowers: leaves dark green, opaque, hairy: flowers small, white or tinged with red: the two species pass into each other, and are probably specifically identical. Perennial: woods, copses, hedges, and shady lanes: flowers in June and July. *Eng. Bot.* vol. xv. pl. 1056. *Eng. Fl.* vol. i. p. 15. 34.

9. LEMNA. Linn. DUCKWEED.

Calyx 1 or 2, membranous. Corolla none. Stamens urceolate, unequal, longer than the calyx; anthers of 2 lobes. Germen superior, ovate; style shorter than the stamens. Capsule 1-celled, globose, containing one seed. Small lenticular floating plants, with radicles, and increasing by buds concealed in lateral clefts of the fronds, as well as by seeds.—Name λεμνα, from λεπις, a scale. 11.

1. **L. triscul'ca.** L. *Ivy-leaved Duckweed.* Fronds stalked, between elliptical and lanceolate, thin, serrate towards the point; roots solitary.——*Fronds* about half an inch long, reticulate, pellucid at the margin: leaf-stalks issuing from the sides of another leaf, from a fissure there: capsule ovate, pointed, sitting on the upper surface of the frond. Annual: flowers from June to September: occurs floating in ditches, pools, and lakes: common in England, less frequent in Scotland. All the species of this genus are said to be eaten by ducks, and other herbivorous aquatic birds. *Eng. Bot.* vol. xiii. pl. 926. *Eng. Fl.* vol. i. p. 32. 35.

2. **L. mi'nor.** L. *Lesser Duckweed.* Fronds obovate, serrate, compressed, the lower stalked; roots solitary.——*Fronds* two or three lines long, rather thick and firm: roots tipped with a small sheath: flowers from June to September. Annual: occurs floating in dense masses in ditches, pools, and lakes: very common. *Eng. Bot.* vol. xvi. pl. 1095. *Eng. Fl.* vol. i. p. 32. 36.

3. **L. gib'ba.** L. *Gibbous Duckweed.* Fronds obovate, hemispherical beneath; roots solitary.——*Fronds* about a line long, green and plane above, bulging and purple beneath. Annual: flowers from June to September: occurs floating in ditches, pools, and lakes: rare in Scotland; in England and Ireland not unfrequent. *Eng. Bot.* vol. xviii. pl. 1233. *Eng. Fl.* vol. i. p. 32. 37.

4. **L. polyrhi'za.** L. *Greater Duckweed.* Fronds broadly ovate, a little convex beneath; roots numerous.——*Fronds* half an inch long, firm, green above, purple below. Annual: flowers unknown in Great Britain: occurs floating in stagnant water: rare, especially in Scotland. *Eng. Bot.* pl. 2458. *Eng. Fl.* vol. i. p. 33. 38.

10. CLA'DIUM. Schrad. TWIG-RUSH.

Flowers in imbricated spikelets; bracts concave, 1-flowered. Stamen filiform, longer than the bract; anther linear, erect. Germen superior, ovate, without bristles at the base; style thread-shaped. Achenium with a fleshy coat, and pointed with the slender base of the style.—Name from κλαδος, a branch. 12.

1. **C. Maris'cus.** L. *Prickly Twig-rush.* Panicle repeatedly divided; stem round, smooth, leafy; leaves prickly at the edge and

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along the keel.——*Root* long, and creeping: stem four or five feet high, erect, angular at the top: leaves keeled, ending in a sharp point, with prickly serratures: panicle erect, with numerous compound, furrowed branches. Perennial: flowers in July and August: grows in marshes and bogs in several parts of England: rare. Cunnemara bogs, Ireland. Very rare in Scotland, Galloway and Sutherlandshire. *Eng. Bot.* pl. 950. *Eng. Fl.* vol. i. p. 36. *Brit. Fl.* p. 13. 39.

DIGYNIA.

11. ANTHOXA'NTHUM. Linn. SPRING-GRASS.

Two ovate, pointed, concave glumes, 1-flowered. Two equal paleæ or glumellæ, shorter than the glumes, awned on the back. An internal corolla, or nectary, consisting of 2 ovate minute scales. Stamens filiform, longer than the corolla; anther oblong, forked at both ends. Germen superior, oblong. Styles short; stigmas long, downy. Caryopsis nearly cylindrical, tapering at each end. Name from ανθος, a flower, and ξανθος, yellow. 13.

1. A. odora'tum. L. *Sweet-scented Spring-grass.* Panicle spiked, oblong; flowers on short stalks, and longer than the awns.——*About* a foot high: leaves short, pale-green: panicle dense, becoming dullish yellow: glumes unequal, acute, membranous, with a green bristly keel: glumellæ obtuse, hairy, shorter than the glumes, one with a short straight awn, the other with a longer twisted one: internal corolla, or nectary, of two very small membranous scales. The pleasant smell of new-made hay is chiefly owing to this plant, which, in drying, emits an odour similar to that of *Asperula odorata* and *Trifolium officinale.* Perennial: flowers in May: grows in pastures and meadows: common. This plant is a true grass, but is separated on account of its having only two stamens. It forms part of most natural pastures, is occasionally sown on lawns used for permanent pastures, and appears to be relished by cattle. *Eng. Bot.* pl. 647. *Eng. Fl.* vol. i. p. 97. 40.

CLASS III. TRIANDRIA,

Plants bearing Flowers with Three Stamens.

Order I. MONOGYNIA. *One Pistil.*

* *Flowers Superior.*

1. CENTRA'NTHUS. *Corolla* 5-cleft, spurred. *Stamen* 1. *Fruit* crowned with a feathery pappus.
2. VALERIA'NA. *Corolla* 5-cleft, protuberant on one side at the base. *Fruit* crowned with a feathery pappus.
3. FE'DIA. *Corolla* 5-cleft, protuberant on one side at the base. *Fruit* 3-celled, crowned with the toothed calyx.
4. CRO'CUS. *Perianth* of 6 equal segments, resembling petals; tube longer than the limb. *Stigmas* tripartite, their segments plicate.
5. TRICHONE'MA. *Perianth* of 6 equal segments; tube shorter than the limb. *Stigmas* deeply divided.

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6. I'RIS. *Perianth* of 6 unequal segments, the three outer larger and reflected. *Stigmas* 3, resembling petals.

** *Flowers inferior, glumaceous.*

7. SCHŒ'NUS. *Spikelets* few-flowered. *Glumes* from 6 to 9, imbricated in two opposite rows, the lower smaller and empty; from 3 to 6 hypogynous bristles, or none. *Style* simple at the base, deciduous.
8. RHYNCHO'SPORA. *Spikelets* few-flowered. *Glumes* imbricated all round, the outer empty; from 3 to 12 hypogynous bristles. *Style* dilated at the base, persistent.
9. CYPE'RUS. *Spikelets* solitary or fasciculate. *Glumes* imbricated in two rows, mostly all fertile; no hypogynous bristles. *Style* deciduous.
10. SCIR'PUS. *Spikelets* solitary or fasciculate, imbricated all round. *Hypogynous* bristles few. *Style* simple at the base, deciduous.
11. ISO'LEPIS. *Spikelets* many-flowered, imbricated all round. No hypogynous bristles. *Style* bifid or trifid, simple at the base, deciduous.
12. ELEO'CHARIS. *Spikelets* many-flowered. *Glumes* uniform, arranged in a spike imbricated all round. *Style* enlarged at the base, permanent. *Bristles* from 4 to 12.
13. BLY'SMUS. *Spikelets* alternate, arranged in a compound distichous spike. *Achenia* ovate, gradually tapering into the persistent style.
14. ERIO'PHORUM. *Spikes* ovate. *Glumes* uniform, arranged in a spike imbricated all round. *Hypogynous* bristles numerous, very long and conspicuous.
15. NAR'DUS. *Spike* simple, unilateral. *Spikelets* 1-flowered. *Glumes* none. *Glumellas* 2.

(Some species of *Juncus*.)

Order II. DIGYNIA. *Two Pistils.*

* *Spikelets containing one perfect flower, and disposed in a panicle or raceme.*

16. ALOPECU'RUS. *Glumes* 2, nearly equal, acute. *Glumella* 1, with a dorsal awn.
17. KNAP'PIA. *Glumes* 2, nearly equal, abrupt. *Glumellas* 2, unequal, awnless, the outer membranaceous, jagged.
18. PHLE'UM. *Glumes* 2, nearly equal, pointed. *Glumellas* 2, concealed, membranaceous, awnless. *Caryopsis* loose, or with a short terminal awn.
19. PHA'LARIS. *Glumes* 2, unequal, keeled. *Glumellas* 2, downy, awnless. Neuter florets 1 or 2, coriaceous, rudimentary. *Caryopsis* invested by the hardened glumellas.
20. CALAMAGROS'TIS. *Glumes* 2, nearly equal. *Flower* with scaly hairs at the base. *Glumellas* 2, membranaceous, outer awned at the back or point.
21. AMMO'PHILA. *Glumes* 2, unequal, keeled, diverging. *Glumellas* 2, with a tuft of hairs at the base. Neuter flower 1, membranaceous. *Caryopsis* invested by the hardened glumellas

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22. POLYPO'GON. *Glumes* 2, equal, notched and awned at the summit. *Glumellas* 2, concealed, the outermost with a nearly terminal awn. *Caryopsis* loose.
23. MI'LIUM. *Glumes* 2, unequal, tumid. *Glumellas* 2, awnless, concealed. *Caryopsis* invested by the hardened glumellas.
24. GASTRI'DIUM. *Glumes* 2, membranaceous, ventricose at the base, acute, entire, awnless. *Glumellas* 2, membranaceous, abrupt or toothed, with a long straight awn below the point.
25. AGROS'TIS. *Glumes* 2, acute, awnless. *Glumellas* 2, longer than the glumes, membranous, tufted with hairs at the base. *Caryopsis* loose.
26. LAGU'RUS. *Glumes* 2, unequal, fringed, with terminal feathery awns. *Glumellas* 2, unequal, the outer with 3 awns.
27. SPARTI'NA. *Glumes* 2, lanceolate, very unequal. *Glumellas* 2, unequal, compressed, acuminate. *Caryopsis* loose.
28. CY'NODON. *Glumes* 2, acute, lanceolate, equal. *Glumellas* 2, very unequal, compressed. *Caryopsis* invested by the hardened glumes.
29. DIGITA'RIA. *Glumes* 2 or 3, very unequal, awnless. *Glumellas* 2, unequal, awnless. *Caryopsis* invested by the hardened glumes.
30. LEER'SIA. *Glumes* none. *Glumellas* 2, very unequal, inclosing the caryopsis.

(Some species of *Calamagrostis*. *Melica uniflora*.)

** *Spikelets containing 2 or 3 flowers, and disposed in panicles, hairy at the base.*

31. AI'RA. *Glumes* 2, unequal. *Flowers* 2. *Glumellas* 2, the outer awned above the base. *Caryopsis* loose in the glumellas.
32. CATABRO'SA. *Glumes* 2, unequal, 1-nerved, obtuse, shorter than the flowers. *Glumellas* 2, nearly equal, glabrous, truncate and erose.
33. KOELE'RIA. *Glumes* 2, unequal, upper with several nerves. *Glumellas* 2, membranaceous; outer carinate, entire, pointed.
34. MOLI'NIA. *Glumes* 2, acute, shorter than the flowers, unequal, 1-nerved. *Glumellas* 2, the outer glabrous, entire. *Caryopsis* free.
35. ME'LICA. *Glumes* 2, unequal, awnless. *Flowers* 2, together with the rudiments of a third. *Glumellas* 2, awnless. *Caryopsis* invested by the hardened glumellas.
36. HOL'CUS. *Glumes* 2, unequal. *Flowers* 2, one of them bearing stamens only, and awned. *Glumellas* 2, awned. *Caryopsis* invested by the hardened glumellas.
37. ARRHENA'THERUM. *Glumes* 2, nearly equal, membranaceous. *Flowers* 2, the lower male, the upper perfect, with the outer glumella awned below the point.
38. PA'NICUM. *Glumes* 2, very unequal. *Flowers* 2, one of them destitute of stamens and style, the perfect one awnless. *Glumellas* 2. *Caryopsis* invested by the hardened glumellas.
39. SETA'RIA. *Glumes* 2, very unequal. *Flowers* 2, the lower with stamens only. *Spikelets* with an involucre of bristles.
40. HIERO'CHLOE. *Glumes* 2, unequal, acute, awnless. *Flowers* 3, the central one perfect, with two stamens, the lateral ones bearing 3 stamens, but no pistil. *Glumellas* permanently membranous. *Caryopsis* loose. *Styles* distinct.

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41. SESLE'RIA. *Glumes* 2, acute, somewhat awned. *Flowers* 2 or 3, all perfect. *Glumellas* toothed or awned. *Caryopsis* loose. *Styles* combined.

*** *Flowers in panicles. Spikelets containing more than three flowers.*

42. GLYCE'RIA. *Glumes* 2, unequal, oblong, obtuse, awnless. *Glumellas* 2, unequal, the outer ribbed, cylindrical, abrupt, awnless. *Caryopsis* loose, cylindrical.
43. TRIO'DIA. *Glumes* 2, nearly equal, ovate, acute, awnless. *Glumellas* 2, unequal, ovate; the outer deeply cleft, with an intermediate point. *Caryopsis* oval, loose.
44. BRI'ZA. *Glumes* 2, nearly equal, heart-shaped, obtuse, awnless. *Glumellas* 2, unequal, awnless. *Caryopsis* united to the glumellas.
45. DAC'TYLIS. *Glumes* 2, unequal, lanceolate, acuminate, the larger keeled. *Glumellas* 2, lanceolate, the outer keeled, and awned at the summit.
46. PO'A. *Glumes* 2, unequal, ovate, acute, awnless. *Glumellas* 2, unequal, the outer keeled, ovate, acute, awnless. *Caryopsis* loose, oblong.
47. FESTU'CA. *Glumes* 2, very unequal, lanceolate, pointed. *Glumellas* 2, unequal, the outer nearly cylindrical, pointed or awned. *Caryopsis* oblong, loose.
48. CYNOSU'RUS. *Glumes* 2, equal, lanceolate, long-pointed, awned. *Glumellas* 2, unequal, the outer lanceolate, keeled, awned at the summit. *Caryopsis* oblong, loose.
49. BRO'MUS. *Glumes* 2, unequal, lanceolate, acute, awnless. *Glumellas* 2, unequal; the outer elliptical, cleft, awned near the summit. *Caryopsis* elliptical, united to the inner glumella.
50. AVE'NA. *Glumes* 2, unequal, broadly lanceolate, awnless. *Glumellas* 2, unequal; outer nearly cylindrical, pointed, deeply cleft, with a long twisted awn from the middle. *Caryopsis* elliptical, united to the outer hardened glumella.
51. PHRAG'MITES. *Glumes* 2, unequal, membranaceous, shorter than the flowers, which are enveloped in long hairs from the stalk. *Glumellas* 2, outer with a subulate awnless point.

**** *Flowers spiked; arranged on a common stalk, having alternate lateral excavations.*

52. BRACHYPO'DIUM. *Spikelets* solitary, nearly sessile, transverse to the rachis, cylindrical, many-flowered. *Glumes* 2, opposite, unequal, inner glumella strongly ciliated.
53. LO'LIUM. *Glume* 1, lanceolate, fixed, opposite to the excavation, many-flowered.
54. LEP'TURUS. *Glumes* 2, lanceolate, parallel, opposite to the excavation, 3-flowered.
55. E'LYMUS. *Glumes* in several parallel pairs, opposite to the excavation, each pair containing several flowers.
56. HOR'DEUM. *Glumes* in three parallel pairs, opposite to the excavation, each pair containing 1 flower.
57. TRI'TICUM. *Glumes* 2, at each joint of the rachis, oblong, opposite to each other, transverse to the excavation, many-flowered.

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Order III. TRIGYNIA. *Three Pistils.*

58. MON'TIA. *Calyx* of 2 leaves. *Corolla* monopetalous. *Capsule* 3-valved, 3-seeded.
59. POLYCAR'PON. *Calyx* of 5 leaves. *Petals* 5, nearly entire. *Capsule* 3-valved, many-seeded.
60. HOLOS'TEUM. *Calyx* of 5 leaves. *Petals* 5, jagged. *Capsule* 6-toothed, many-seeded.

TRIANDRIA.—MONOGYNIA.

1. CENTRAN'THUS. De Cand. SPURRED-VALERIAN.

Calyx a slight border surmounting the germen. Corolla tubular, with a spur at the base; limb divided into 5 obtuse segments. Stamen 1; filament subulate, erect, borne upon the corolla; anthers oblong. Germen inferior, oblong, one perfect cell; style filiform, as long as the stamens; stigma simple. Fruit oblong, compressed, crowned with the calyx expanded into a number of feathery rays. Named from κεντρον, a spur, and ανθος, a flower. 14.

1. C. ruber. L. *Red-Spurred Valerian.* Flowers with one stamen, and a long spur; leaves broadly lanceolate, nearly entire.——*From* one to two feet high: lower leaves shortly stalked, entire: upper sessile, broader, sometimes toothed: flowers rose-coloured, numerous, arranged in a corymbose head. Perennial: flowers from June to September: grows on old walls and among rubbish in various parts of the country, but is not truly indigenous. *Eng. Bot.* vol. xx. pl. 1531. *Eng. Fl.* vol. i. p. 42. 41.

2. VALERIA'NA. Linn. VALERIAN.

Calyx a slight border surmounting the germen. Corolla with a protuberance at the base; limb divided into 5 obtuse segments. Stamens 3; filaments awl-shaped, erect, borne upon the corolla; anther oblong. Germen inferior, oblong, 1-celled; style filiform, as long as the stamens; stigma simple. Fruit oblong, compressed, crowned with the calyx expanded into a number of feathery rays.—Named from *valeo*, to prevail, on account of its medical properties. 15.

1. V. dioi'ca. L. *Small Marsh Valerian.* Flowers diœcious; radical leaves ovate, stem leaves pinnatifid.——*Root* creeping: stem six or eight inches high, erect: terminal lobe of the leaves large: flowers pale rose-coloured. Perennial: flowers in June: grows in moist meadows: frequent in England, rare in Scotland. *Eng. Bot.* vol. ix. pl. 628. *Eng. Fl.* vol. i. p. 43. 42.

2. V. officina'lis. L. *Great Wild Valerian.* Leaves all pinnatifid; segments lanceolate, nearly uniform.——*From* two to four feet high: root with long slender fibres, fetid: stem furrowed: leaflets broadly serrate: flowers pale rose-colour or whitish. There is a variety of smaller size, with more narrow leaflets, the root of which

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is more fetid. Perennial: flowers in June: grows by the side of lakes, in marshes, moist meadows, by hedges, among rubbish, in dry pastures, and in woods: common. The root has a warm bitter taste, and is employed as an antispasmodic, generally in substance, although it communicates its properties to wine, water, or spirits. The roots of those plants which grow in dry situations, are preferred to those of the others. Cats are powerfully affected by the odour of the root. *Eng. Bot.* vol. x. pl. 698. *Eng. Fl.* vol. i. p. 43. 43.

3. **V. pyrena'ica.** L. *Heart-leaved Valerian.* Leaves cordate, serrate, stalked, the uppermost pinnate.——*Two* or three feet high: flowers pale rose-coloured. Perennial: flowers in July: grows in moist woods in various parts of Scotland, where, however, it is probably not indigenous. *Eng. Bot.* vol. xxiii. pl. 1591. *Eng. Fl.* vol. i. p. 44. 44.

3. FE'DIA. Vahl. CORN-SALAD.

Calyx adherent, with 3 or 4 small teeth. Corolla tubular, with a protuberance at the base; limb divided into 5 obtuse segments. Stamens 2 or 3; filaments borne upon the tube; anthers roundish. Germen inferior, roundish, 3-celled; style thread-shaped; stigma notched. Capsule membranous; 3-celled, 1-seeded, two of the cells being abortive, crowned by the permanent calyx. Fruit solitary, ovate.—Named from *fedus*, a kid. 16.

1. **F. olito'ria.** Vahl. *Common Corn-Salad*, or *Lamb's Lettuce.* Capsule nearly globular, smooth, inflated, crowned with the three inflected teeth of the calyx, of which one is much larger, the fertile cell with a corky mass at the back; flowers in heads.——*Stem* about six inches high, repeatedly forked, furrowed: lower leaves tongue-shaped or spathulate, stalked; stem-leaves sessile, obtuse, sometimes a little toothed: flowers pale blue, in round heads; with linear, often divided bracts at their base. Annual: flowers from April to June: grows in corn-fields, and among rubbish: common. Sometimes cultivated as a salad. *Valeriana Locusta.* Linn. *Eng. Bot.* vol. xii. pl. 811. *Eng. Fl.* vol. i. p. 45. 45.

2. **F. denta'ta.** Vahl. *Smooth-fruited Corn-Salad.* Capsule ovate, smooth, ribbed in front, taper-pointed, crowned with the prominent cup of the unequally 4-toothed calyx; flowers in corymbs, with a sessile one in each fork of the stem.——*Stem* about ten inches high, repeatedly forked: leaves narrower than in the last, the upper ones more toothed: flowers flesh-coloured, in loose corymbs, with smaller ones in each fork of the stem. Annual: flowers from April to June: grows in corn-fields and on hedge-banks: not uncommon. The young leaves of this species also may be used as salad. *Eng. Bot.* vol. xx. pl. 1370. *Eng. Fl.* vol. i. p. 45. Two varieties with hairy capsules have been described as distinct; the one has the cup of the calyx small, with three teeth, *F. mixta, Brit. Fl.* ed. 2. p. 23; the other has the cup of the calyx large, with 5 unequal teeth, *F. eriocarpa, Brit. Fl.* ed. 2. p. 24. Both these varieties are of rare occurrence. 46.

3. **F. Auri'cula.** Gaud. *Sharp-fruited Corn-Salad.* Capsule ovate, smooth, somewhat inflated, slightly grooved in front, taper-

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pointed, crowned with the single entire or 3-toothed limb of the calyx; flowers in lax corymbs or cymes, a sessile one in each fork of the stem.——*Stem* about nine inches high, forked; leaves spathulate; the two empty cells rounded on the back, and larger than the fertile one. Annual: flowers from April to June: grows in fields and hedge-banks: rare. Near Hastings and Bristol; Devonshire; Isle of Wight. Inverkeithing, Fifeshire. *Brit. Fl.* ed. 4. p. 22. 47.

4. F. carina'ta. Stev. *Keel-fruited Corn-Salad.* Capsule oblong, smooth, keeled, crowned with the single straight tooth of the limb of the calyx.——Cymes capitate; the two empty cells thin and incurved at the edges. Annual: flowers from April to June: discovered by Mr. J. E. Bowman on a hedge-bank in Shropshire. *Brit. Fl.* ed. 4. p. 22. 48.

4. CRO'CUS. Linn. CROCUS.

Perianth superior; tube very long, erect; limb of 6 oblong equal segments. Stamens distinct; filaments awl-shaped, shorter than the corolla; anthers sagittate. Germen inferior, roundish: style thread-shaped, very long; stigmas 3, dilated upwards, folded, jagged. Capsule roundish, 3-celled, 3-valved. Seeds several, round.—Named from κροκος, a thread. 17.

1. C. sati'vus. L. *Saffron Crocus.* Stigma in 3 deep, narrow segments, hanging out of the corolla, tube smooth at the mouth.——*Flower* purple: stigma deep orange: anthers pale yellow: leaves linear, keeled, curved outwards. Perennial: flowers in September: grows in meadows and pastures in England, where, however, like all the British species of this genus, it is not indigenous, but naturalized. The stigma of this plant is the *Saffron* of the shops. It was formerly greatly esteemed as a cordial, but is now nearly discarded. It gives a beautiful colour to water, wine, or spirits. *Eng. Bot.* vol. v. pl. 343. *Eng. Fl.* vol. i. p. 46. 49.

2. C. ver'nus. Willd. *Purple Spring Crocus.* Stigma in 3 short, wedge-shaped, jagged segments, not protruded, tube hairy at the mouth.——*Bulb* inverted with slender anastomosing fibres. Flower purple: stigma pale. Perennial: flowers in March: naturalized in meadows and pastures in England: rare. About Nottingham. *Eng. Bot.* vol. v. pl. 344. *Eng. Fl.* vol. i. p. 46. 50.

3. C. mi'nimus. Red. *Net-rooted Crocus.* Stigma in 3 blunt undivided segments, not protruded; coat of the bulb strongly reticulated. ——*Bulb* remarkable for its coating of reticulated fibres: corolla yellow, purple, or whitish, the 3 outer recurved petals marked with 3 dark purple lines. Perennial: flowers in March. Found at Barton, Suffolk, by Mr. D. Turner. *Eng. Bot. Suppl.* pl. 2645. 51.

4. C. au'reus. Sm. *Golden Crocus.* Two-flowered; stamens longer than the stigma, bulb coated with compact fibres.——*Perennial:* flowers in March: grows in meadow ground in England: rare. Barton, Suffolk; Charlton Wood, Kent. *Eng. Bot. Suppl.* pl. 2646. *Brit. Fl.* vol. i. p. 23. 52.

5. C. nudiflo'rus. Sm. *Naked-flowering Crocus.* Stigma 3 in deeply-divided, tufted segments, not protruded, of the same height as the stamens.——*Corolla* pale purple: stigma deep orange: leaves not

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produced along with the flower, which is solitary. Perennial: flowers in October: grows in sandy meadows, between Nottingham Castle and the Trent. *Eng. Bot.* pl. 491. *Eng. Fl.* vol. i. p. 47. 53.

6. C. specio'sus. Bieb. *Showy Autumnal Crocus.* Stigma in 3 deeply divided segments, not protruded; longer than the stamens. ——*Flowers* appear before the leaves. Perennial: flowers in October: grows in meadows in England: rare. Meadows near Warwick; about Warrington; Halifax, Yorkshire. *Eng. Bot. Suppl.* pl. 2752. *Brit. Fl.* 4th ed. p. 23. 54.

All the species above characterized are exotic, either partially naturalized, or merely outcasts from gardens, and might without impropriety be excluded from the British Flora.

5. TRICHONE'MA. Ker. TRICHONEMA.

Perianth single, superior, petaloid, in 6 deep equal segments, the tube shorter than the limb; tube short, funnel-shaped; limb regular. Filaments arising from the mouth of the tube, much shorter than the limb; anthers large, oblong. Style longer than the stamens; stigmas 3, equal, spreading, divided to the base. Capsule roundish. Seeds round.—Named from θριξ, a hair, and νημα, a filament. 18.

1. T. Bulboco'dium. Ker. *Channelled Trichonema.* Leaves linear, channelled, curved back, longer than the flower-stalks.——*Bulb* ovate: flowers pale purple. Perennial: flowers in March and April: grows on grassy hillocks: very rare. The Warren, Dawlish, Devonshire. *Eng. Bot.* vol. xxxvi. pl. 2549. *Eng. Fl.* vol. i. p. 49. 55.

6. I'RIS. Linn. IRIS.

Perianth superior, with 6 divisions, the 3 outer larger, rounded, reflected; the 3 inner erect, narrow. Filaments awl-shaped, lying on the reflected segments; anthers oblong, depressed. Germen inferior, oblong, 3-sided, with 3 furrows; style short; stigmas 3, very large, resembling petals. Capsule oblong, angular, 3-celled, 3-valved. Seeds numerous, large.—Named after the rainbow. 19.

1. I. Pseuda'corus. *Yellow Iris,* or *Water Flag.* Inner segments of the corolla smaller than the stigmas; leaves ensiform.——*Root* large, horizontal, fleshy, acrid: stem from two to four feet high: leaves sword-shaped, erect, deep green: flowers yellow, 3 together on the top of the stem, the large segments lined with dark purple. Perennial: flowers in June and July; grows in marshy places, and by the sides of streams and lakes, generally in extensive patches, which, in the Hebrides and the north of Scotland, are much frequented by the Corn Crake: frequent. The whole plant is extremely harsh to the taste, but cattle do not refuse the dried leaves. The root has been recommended for alleviating the pain of toothache, and is used for dyeing black in the Hebrides. The leaves make excellent thatch; and are also employed for making bottoms to chairs. Dr. George Johnstone says the roasted seeds make an excellent substitute for coffee. *Eng. Bot.* vol. ix. pl. 578. *Eng. Fl.* vol. i. p. 49. 56.

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2. I. fœ'tidissima. L. *Stinking Iris.* Stem with one angle; inner segments of the perianth about as large as the stigmas; leaves ensiform.——*Stem* about two feet high, cylindrical, but angular on one side: leaves sword-shaped, dull green, when bruised emitting a detestable smell, which some liken to that of rancid bacon, while others compare it to that of roast-beef: flowers dull purplish gray, with darker lines. Perennial: flowers in June and July: in all the south-western counties of England, very common, particularly about Teignmouth, and Torquay, on hedge-banks and sloping ground. Common also in Ireland; but not found wild in Scotland. *Eng. Bot.* vol. ix. pl. 596. *Eng. Fl.* vol. i. p. 50. 57.

7. SCHŒ'NUS. Linn. BOG-RUSH.

Spikes of a few flowers, together with numerous, empty, crowned glumes, arranged in two rows. Filaments hair-like; anthers linear, erect. Germen superior, more or less triangular. Style hair-like, simple, deciduous; stigmas 3, feathery. Achenia roundish, or trigonal, hard.—Named from σχοινος, a cord. 20.

1. S. ni'gricans. L. *Black Bog-rush.* Stem round; spikes of flowers forming a roundish head, overtopped by one of the two floral leaves.——*Root* of very long fibres, forming a thick tuft: stem about a foot high, rigid, sheathed at the base with broad scales of a blackish colour, the uppermost of which bear narrow acute leaves: spikelets blackish brown: anthers long, yellow: stigmas dark purple: fruit white, shining. Perennial: flowers in June: grows in bogs and wet moors: common. *Eng. Bot.* vol. xvi. pl. 1121. *Eng. Fl.* vol. i. p. 52. 58.

8. RHYNCHO'SPORA. Vahl. BEAK-RUSH.

Spikelets of a few flowers, together with numerous empty, crowded glumes, imbricated all round. Hypogynous bristles several, short, toothed. Filaments hair-like; anthers linear, erect. Germen superior, roundish; style hair-like, enlarged at the base. Fruit roundish, hard, crowned by the permanent base of the style.—Named from ρυγχος, a beak, and σπορα, a seed. 21.

1. R. a'lba. L. Vahl. *White-headed Beak-rush.* Leaves tapering, linear, channelled; spikelets forming a somewhat corymbose head; stamens 2.——*Stem* from five to ten inches high, triangular, very slender: leaves erect: larger floral leaf a little longer than the head of flowers, which is white: stigmas 2: seed inversely egg-shaped. Perennial: flowers in July and August: grows on wet heaths and in boggy places: common. *Eng. Bot.* vol. xiv. pl. 985. *Eng. Fl.* vol. i. p. 52. 59.

2. R. fu'sca. L. Sm. *Brown-headed Beak-rush.* Leaves filiform: spikelets forming an ovate head; stamens 3.——*Smaller* than the last: leaves not tapering: head of flowers reddish-brown. Perennial: flowers in June: grows in bogs, chiefly in the south of England and in Ireland: rare. *Eng. Bot.* vol. xxii. pl. 1575. *Eng. Fl.* vol. i. p. 53. 60.

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9. CYPE'RUS. Linn. CYPERUS.

Spikelets of numerous flowers, all perfect, excepting one or two at the bottom. Glumes imbricated in 2 opposite rows. Filaments short; anthers linear. Achenium roundish; style deciduous. Seed pointed.—Name, κυπειρος of the Greeks. 22.

1. **C. lon'gus.** L. *Sweet Cyperus. English Galingale.* Umbel leafy, twice compounded; fruit-stalks naked; spikes alternate.——*Stem* from two to three feet high: spike-stalks sometimes amounting to twelve or thirteen, forming a compound umbel: spikes brown, five or six together. The root is agreeably aromatic to the smell, and warm and bitter to the taste. Perennial: flowers in July: grows in marshes: very rare. By a rivulet between St. David's Town and St. David's Head; at Walton, in Gordon, Somersetshire; Isle of Wight; Guernsey and Jersey. *Eng. Bot.* vol. xix. pl. 1309. *Eng. Fl.* vol. i. p. 54. 61.

2. **C. fus'cus.** L. *Brown Cyperus.* Umbel with 3 leaves, compound; spikes crowded, spreading in all directions.——*Stem* about six inches high: spikes numerous, brown. Annual: flowers in September. Found by Mr. Haworth in a meadow near Little Chelsea. Near Waltham Green, and Godalming. Neither of the two species is found in Scotland. *Eng. Bot. Suppl.* pl. 2626. *Eng. Fl.* vol. i. p. 54. 62.

10. SCIR'PUS. Linn. CLUB-RUSH.

Spikelets solitary or several, of numerous flowers, all perfect. Filaments threadlike; anthers linear. Hypogynous bristles, about 6, scarcely so long as the glumes. Style simple, deciduous; stigmas 3, downy. Achenium 3-cornered. Name, said to be from *cirs*, Celtic for cord. 23.

* *Spikes solitary.*

1. **S. cœspito'sus.** L. *Scaly-stalked Club-rush.* Stem round, sheathed with numerous scales at the base, some of them bearing short leaves; 2 outer glumes as long as the spike.——*Stems* numerous, from four to twelve inches high, growing in dense tufts striated, upper sheaths ending in a short leaf: spike small, reddish brown. Perennial: flowers in July: grows on peat soil: abundant. This is one of the most important of our native plants, in respect to moor pasturage. Its very numerous long fibrous roots form the principal part of the spongy varieties of peat. In the Highlands it is often seen occupying extensive tracts, almost exclusively, and forms excellent summer food for cows, horses, and sheep. *Eng. Bot.* vol. xv. pl. 1029. *Eng. Fl.* vol. i. p. 17. 63.

2. **S. pauciflo'rus.** Lightf. *Chocolate-headed Club-rush.* Stem round, sheathed at the base, leafless; 2 outer glumes shorter than the spike.——*Spike* smaller and darker than in the last: stem about six inches high: it resembles the last in its mode of growth and qualities. Perennial: flowers in July: grows abundantly in Scotland; in England rare. *Eng. Bot.* vol. xvi. pl. 1122. *Eng. Fl.* vol. i. p. 17. 64.

** *Stem round, bearing several spikes.*

3. **S. lacus'tris.** L. *Bull-rush. Great Club-rush.* Stem round, leaf-

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less; panicle cymose, twice compounded; bracts two, shorter than the panicle.——*Stems* from four to six feet high, smooth, internally spongy: lower sheaths dark brown: a few short leaves at the base of the stem: spikes brown, forming a cyme or panicle. Perennial: flowers in July: grows in pools, and the edges of rivers, with muddy bottoms. It is sometimes used as thatch. Bottoms of chairs are very commonly made of it, as well as mats. *Eng. Bot.* vol. x. pl. 666. *Eng. Fl.* vol. i. p. 57. This species has, by some authors, been split into two—*S. lacustris* and *S. glaucus;* the latter characterized by having the glumes rough (in the former smooth); the anthers glabrous at the end (in the other bearded); the style bifid (in the other trifid); the achenium compressed (instead of being bluntly trigonous); the tint of the stem glaucous. This alleged *S. glaucus* is common in estuaries. Sm. *Eng. Bot.* pl. 2321. *S. Tabernæmontani.* Gmel. Hooker and Arnott. *Brit. Fl.* 1850. p. 481. 65.

*** *Stem triangular, bearing several panicled spikes.*

4. **S. trique'ter.** L. *Triangular Club-rush.* Stem acutely triangular; spikes lateral; glumes notched; runcronate; stigmas 2.——*Stems* three feet high, acutely triangular, with the sides hollowed, the point erect and sharp: a single, short leaf: spikes ovate, in a panicle coming from the side of the stem, near the top. Perennial: flowers in July and August: grows on the banks of large rivers exposed to the tide, as of the Thames, both above and below London: rare. *Eng Bot.* vol. xxiv. pl. 1694. *Eng. Fl.* vol. i. p. 60. 66.

5. **S. pun'gens.** Vahl. *Sharp Club-rush.* Stem acutely triangular; sheaths with long, narrow keeled leaves; spikes few, lateral, sessile; glumes bifid, runcronate; stigmas 2; achenia smooth. *Sc. triqueter.* B. Sm. *Eng. Fl.* i. 60. Distinguished by its acutely-lobed glumes. Perennial: flowers in June and July. Banks of St. Ouen's Pond, Jersey. Babington, in *Eng. Bot. Suppl.* pl. 2819. 67.

6. **S. carina'tus.** *Blunt-edged Club-rush.* Stem bluntly-triangular; spikes terminal; stigmas 2.——*Stems* triangular, with the sides convex: panicle terminal, with a longish bract: spikes ovate, brown. Perennial: flowers in July and August: grows on the banks of large rivers exposed to the tide; along the Thames, &c.: rare. *Eng. Bot.* vol. xxviii. pl. 1983. *Eng. Fl.* vol. i. p. 61. 68.

7. **S. mari'timus.** L. *Saltmarsh Club-rush.* Stem triangular; panicle terminal, leafy; scales of the spikes 3-cleft, the middle segment awl-shaped; stigmas 3.——*Stem* from one to three feet high, leafy at the base and summit: leaves keeled, rough at the edges: spikes ovate, reddish-brown. Perennial: grows on the banks of large rivers exposed to the tide, and in salt marshes: not uncommon. *Eng. Bot.* vol. viii. pl. 542. *Eng. Fl.* vol. i. p. 62. 69.

8. **S. sylva'ticus.** L. *Wood Club-rush.* Stem triangular, leafy; cyme terminal, repeatedly compound, leafy; scales of the spikes entire; stigmas 3.——*Stem* from two to three feet high, leafy: leaves flat, rough at the edges and keel: spikes small, very numerous, dark brown, arranged in a compound panicled cyme. Perennial: grows in moist woods: flowers in July: common in Ireland, less so in England, not rare in Scotland, especially in the south, but occurring as far north at least as near Newburgh, on the Ythan. *Eng. Bot.* vol. xiii. pl. 919. *Eng. Fl.* vol. i. p. 62. 70.

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11. ISO'LEPIS. R. Brown. MUD-RUSH.

Spikelets of numerous flowers, nearly all perfect. Glumes imbricated all round. Filaments capillary; anthers linear. Hypogynous bristles none. Style bifid or trifid, not enlarged at the base, deciduous. Achenium generally plano-convex. Name from ισος, equal, and λεπις, a scale. There is very little ground for distinguishing this group from Scirpus. 24.

* *Spikes solitary.*

1. I. flu'itans. L. R. Br. *Floating Mud-rush.* Stem round, compressed, branched, and leafy; spikes ovate; glumes nearly equal; stigmas 2; achenium obovate, plano-convex.——*Stem* from six inches to a foot or more long, slender, much branched; leaves linear, carinate, sheathing; spikes small, pale green. Perennial: flowers in July and August; grows in ditches and pools: extensively distributed. *Eng. Bot.* vol. iii. p. 216. *Eng. Fl.* vol. i. p. 57. 71.

** *Spikes few.*

2. I. seta'cea. R. Br. *Bristle-stemmed Mud-rush.* Stem compressed, branched, leafy at the base; spikes 2 or 3, terminal; a leafy bract, surmounting the spike; stigmas 3; achenium obovate, ribbed, and marked with transverse lines.——*Stems* numerous, very slender, from two to five inches high: spikes from 1 to 3, ovate, greenish brown. Annual: flowers in July and August: grows in moist sandy or gravelly places. *Eng. Bot.* vol. xxiv. p. 1693. *Eng. Fl.* vol. i. p. 59. 72.

3. I. Sa'vii. Sch. *Savi's Mud-rush.* Stem round, leafy at the base; spikes few, sessile, terminal; 2 leafy bracts surmounting the spike; stigmas 3; achenium subglobose, rough, with small points.——*Very* similar to *I. setacea*, but distinguishable especially by the fruit. Perennial: flowers in July and August: grows in wet places: not uncommon. *Eng. Bot. Suppl.* pl. 2782. *Brit. Fl.* 4th ed. p. 26. 73.

*** *Spikes numerous, in globose heads.*

4. I. holoschœ'nus. L. Roem. and Sch. *Round Cluster-headed Mud-rush.* Stem round, leafless; spikes subglobose, closely aggregated, stalked; 2 leafy, unequal bracts. ——*Stems* firm, about a foot high: spikes brown. Perennial: flowers in July: grows on the sea-coast in the south of England: Devonshire and Cornwall. *Eng. Bot.* vol. xxiii. pl. 1612. *Eng. Fl.* p. 58. 74.

12. ELEO'CHARIS. Br. SPIKE-RUSH.

Spikes solitary, imbricated all round. Filaments capillary; anthers linear. Hypogynous bristles, from 4 to 12. Germen compressed. Style enlarged at the base, united to the germen by a narrow joint. Achenium triangular, crowned by the permanent style.—Named from ελος, a marsh, and χαιρω, to rejoice. 25.

1. E. palus'tris. L. Br. *Common Spike-rush.* Stems roundish; stigmas 2; fruit flattened.——*Root* much creeping: stems erect,

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smooth, from six inches to a foot and a half high: sheaths at the base 2 or 3, the upper long, close, and green, the others brown: no leaves: spike ovate or oblong, acute, reddish-brown: only 4 hypogynous bristles. Perennial: flowers in June and July: grows in ditches, rivulets, and marshy ground, and at the edges of pools and lakes: abundant. *Eng. Bot.* vol. ii. pl. 131. *Eng. Fl.* vol. i. p. 64. In rather dry places, or in sandy ground, the plant gradually becoming smaller, so as sometimes to be not more than two or three inches high, has the outer glume broader, so as almost entirely to surround the spike, which is much smaller. In this state it has been described as a distinct species, under the name of *E. uniglumis*. In the station at Aberdeen, given by Dr. Dickie, at Ythan mouth, and elsewhere, they are seen graduating into each other. Mr. Babington's Barvas station very probably presents the same gradation; at least there are many such in the outer Hebrides. 75.

2. **E. multicau'lis.** Sm. *Many-stalked Spike-rush.* Stems round; stigmas 3; fruit acutely triangular.——*Root* creeping to a small extent: stems numerous, smooth, spreading, eight or ten inches high: spikes smaller and more slender than in the last: hypogynous bristles 6. Perennial: flowers in July: grows in wet moors. This seems to be merely a variety of the last. Like it, it has a uniglumous variety also. *Eng. Bot.* vol. xvii. pl. 1187. *Eng. Fl.* vol. i. p. 64. *Brit. Fl.* p. 29. 76.

3. **E. acicula'ris.** *Least Spike-rush.* Stem setaceous, slightly 4-cornered; stigmas 3.——*Roots* creeping, fibrous, thread-like: stems about three inches high: leaves none, the parts usually considered as such being sterile stems: spike very small, narrow, elliptical, brownish. Perennial: flowers in July and August: grows by the sides of lakes, and in wet places on moors. *Eng. Bot.* vol. xi. pl. 749. *Eng. Fl.* vol. i. p. 65. 77.

13. BLY'SMUS. Panz. BROOK-RUSH.

Spikelets arranged on a zigzag rachis into a compressed distichous spike. Glumes imbricated all round, the outer gradually larger, empty. Hypogynous bristles few, or none. Achenium ovate, compressed, gradually tapering into the persistent style. Name from βλυσμος, a spring. 26.

1. **B. compres'sus.** L. Panz. *Compressed Brook-rush.* Stem roundish, leafy at the base; spikes with the outermost bract subulate, somewhat leafy; hypogynous bristles 3 or 6, denticulate, as long as the permanent style; leaves flat, scabrous on the edges and keel.——*Stem* about a foot high, leafy: spikes chestnut-brown: bristles with reflected spikelets. Perennial: flowers in July: grows in boggy places, by rivers and estuaries; not uncommon. *Eng. Bot.* vol. xi. pl. 791. *Eng. Fl.* p. 59. *Schœnus c.* Linn. 78.

2. **B. ru'fus.** Link. *Narrow-leaved Brook-rush.* Stem round, leafy at the base; spikes with all the bracts membranous; hypogynous bristles from 1 to 6, or none; leaves very narrow, smooth.——*More* slender than the last: stems six or eight inches high: leaves shorter and subsetaceous, grooved, not keeled: spike brown. Perennial: flowers in June and July: grows in boggy places, often by estuaries, or in wet downs or links. West of Eng-

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land and Ireland. Not uncommon in Scotland, on both sides. *Eng. Bot.* vol. xi. pl. 791. *Eng. Fl.* p. 59. 79.

14. ERIO'PHORUM. Linn. COTTON-GRASS.

Spike imbricated all round. Filaments hair-like; anthers linear, protruded, pendulous. Germen obovate; style thread-shaped; stigmas 3, longer than the style, reflected. Fruit 3-cornered, tapering to a point, furnished at the base with very long, soft, silky hairs.—Name from ἐριον, wool, and φερω, to bear. 27.

* *Spike single.*

1. **E. vagina'tum.** L. *Hare's-tail Cotton-grass.* Stem triangular above, round below; uppermost sheath inflated; spike ovate.——*Root* creeping: stems jointed, smooth, about a foot high: leaves channelled, sheathing, the upper reduced to an inflated sheath: spike large, ovate, pointed, blackish, with membranous scales: hairs numerous, long, white, and shining. Perennial: flowers in March and April: grows on heaths, and in boggy places: common. *Eng. Bot.* vol. xiii. pl. 873. *Eng. Fl.* vol. i. p. 66. 80.

2. **E. capita'tum.** Host. *Round-headed Cotton-grass.* Stem round in its whole length; uppermost sheath inflated; spike roundish.——*Root* creeping; stems jointed, smooth, about eight inches high: leaves thicker than in the last: glumes smaller, but firmer, brown: hairs much shorter. Perennial: flowers in July and August: grows in heaths in high situations: very rare. Ben Lawers. G. Don. But it has not been found there by any other person, and may be considered a very doubtful native. *Eng. Bot.* vol. xxxiv. pl. 2387. *Eng. Fl.* vol. i. p. 67. 81.

** *Several spikes on each stem.*

3. **E. polysta'chion.** Hoppe. *Broad-leaved Cotton-grass.* Stem triangular above; leaves broadly linear, nearly flat; stalks of the spike smooth; hairs three times the length of the spike.——*Root* fibrous: stems two feet high, grooved, jointed, and leafy: leaves broader than in the last, with an acute keel: spikes 4 or 5, one sessile, brown, pendulous after flowering. Perennial: flowers in June: grows on wet heaths and in peat bogs in England and the south of Scotland. *Eng. Bot.* vol. viii. pl. 563. *Eng. Fl.* vol. i. p. 68. 82.

4. **E. angustifo'lium.** Roth. *Narrow-leaved Cotton-grass.* Stem somewhat triangular; leaves linear, channelled, trigonal above the middle; spike-stalks smooth; hairs four times the length of the spike.——*Root* creeping: stems from two to three feet high, jointed, and leafy: spikes generally 4, of which one is sessile: leaves very narrow, triangular, rough on the edges. Perennial: flowers in April: grows on wet heaths, in peat bogs and ditches: common. *E. gracile. Eng. Bot.* pl. 2402. *Eng. Fl.* vol. i. p. 69. 83.

5. **E. pubes'cens.** Sm. *Downy-stalked Cotton-grass.* Stem triangular above, round below; leaves flat, tapering; spike-stalks rough; hairs twice the length of the spike.——*Smaller* than the last: spikes numerous, black, their stalks downy: leaves broader and shorter than in the last. Perennial: grows in bogs and marshes: common

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in Scotland; rare in England and Ireland. *Eng. Bot. Suppl.* pl. 2633. *Eng. Fl.* vol. i. p. 69. 84.

6. **E. gra'cile.** Roth. *Slender Mountain Cotton-grass.* Stem triangular: leaves narrow, triquetrous throughout; fruit-stalks downy; hairs twice the length of the spike.——*Root* creeping: stem a foot high: leaves linear, triangular, recurved: spikes 3 or 4, nearly erect, longer than their bract, black. Perennial: flowers in June and July: found in boggy places in England; White Moor Pond, Surrey; near Hagnaby, Yorkshire. *Eng. Bot. Suppl.* pl. 2886. Hook. and Arnott. *Brit. Fl.* 485. 85.

15. NAR'DUS. Linn. MAT-GRASS.

Spike simple, unilateral; spikelets 1-flowered. Glumes none. Glumellas 2, lanceolate, the outer carinate, with a long subulate point. Filaments capillary; anthers oblong. Germen oblong; style filiform, long; stigmas feathery. Caryopsis long, narrow, pointed at both ends.—Name from ναρδος of the Greeks. 28.

1. **N. stric'ta.** L. *Common Mat-grass.* The only species.——*Root* consisting of very long, tough, downy fibres: stems numerous, about six inches high, wiry: leaves bristle-like: numerous broad stiff sheaths around the base of the stems. This grass forms dense tufts, and is of a pale grayish green colour. Perennial: flowers in June and July: grows on heaths, generally in sandy or gravelly soil: abundant. *Eng. Bot.* pl. 290. *Eng. Fl.* vol. i. p. 70. 86.

DIGYNIA.

[This order contains all the British Grasses, excepting *Nardus stricta* and *Anthoxanthum odoratum.* The grasses, as every person must have observed, form the basis of all our best pastures; and in some places, certain species, such as *Festuca ovina* and *duriuscula*, exclude almost every other plant. The great utility of these plants hardly requires to be remarked. Wheat, barley, oats, and rye belong to this great family, but are all of exotic origin. Almost all the species are eaten by cattle, especially when young and tender, although they usually refuse the straws after flowering. *Lolium temulentum* is the only species that possesses poisonous properties. Young botanists generally dislike the examination of these plants, on account of its supposed difficulty; but with a little attention, the species could in almost every case be satisfactorily determined, had they not sometimes been unnecessarily multiplied.]

16. ALOPECU'RUS. Linn. FOX-TAIL-GRASS.

Panicle densely spicate. Spikelets compressed. Glumes two, nearly equal, membranaceous, ovate. Glumella 1, ovate, concave, with a dorsal awn above the base, about twice as long as the flower. Filaments capillary; anthers forked at each end. Germen roundish; styles capillary, united at the base: stigmas long, plumose. Caryopsis ovate, loosely covered by the glumella.—Name from αλωπηξ, a fox, and ουρα, a tail. 29.

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1. **A. prate'nsis.** L. *Meadow Fox-tail-grass.* Culm erect, smooth; panicle spiked, cylindrical; glumes acute, hairy, shorter than the awn of the glumella.——*Root* fibrous: culms about two feet high: leaves flat, nearly smooth: spiked panicle about two inches long, hoary. Perennial: flowers in May: grows in meadows and pastures: common. *Eng. Bot.* vol. xi. pl. 759. *Eng. Fl.* vol. i. p. 80. 87.

2. **A. alpi'nus.** Sm. *Alpine Fox-tail-grass.* Culm erect, smooth; panicle spiked, ovate; glumes obliquely abrupt, hairy; awn a little longer than the glumella.——*Root* creeping: culm about a foot high, erect, smooth: lower leaves narrow, the uppermost with a large inflated sheath, and short lanceolate blade: spiked panicle hardly an inch long: glumes united at the base, three-ribbed, covered with long, close, white hairs. Perennial: flowers in July: grows on some of the highest mountains of Scotland. Discovered by Mr. R. Brown, on Loch-na-gar, in Aberdeenshire; Clova mountains, Forfarshire; Canlochen, Braeriach. *Eng. Bot.* vol. xvi. pl. 1126. *Eng. Fl.* vol. i. p. 81. 88.

3. **A. agre'stis.** L. *Slender Fox-tail-grass.* Culm erect, roughish above; panicle spiked, cylindrical, tapering at the end; glumes acute, nearly bare; awn twice the length of the glumella.——*Root* fibrous: culms about two feet high: leaves rough above: spike slender, three inches long, purplish: glumes lanceolate. Annual: flowers in July: grows in cultivated fields and by waysides. Rare in Scotland. *Eng. Bot.* vol. xii. pl. 848. *Eng. Fl.* vol. i. p. 81. 89.

4. **A. bulbo'sus.** L. *Bulbous Fox-tail-grass.* Culm erect; panicle cylindrical, acuminate, simple; glumes separate, linear, acute, downy; awn twice the length of the glume.——*Culm* bulbiform below, erect, smooth: leaves narrow, striated: panicle dark green: glumes narrow, with the keel and ribs fringed; glumella bluntish. Perennial: flowers in July: grows in salt marshes in England: rare, near Yarmouth and Weymouth. *Eng. Bot.* vol. xviii. pl. 1249. *Eng. Fl.* vol. i. p. 82. 90.

5. **A. genicula'tus.** L. *Floating Fox-tail-grass.* Culm ascending, bent at the joints; panicle spiked, cylindrical, obtuse; glumes united at the base, abrupt, fringed; awn twice the length of the glumes. ——*Root* fibrous: culm decumbent at the base: leaves broader and shorter than in the last: spiciform panicles an inch and a half long: glumes obtuse, purple. Perennial: flowers in June and July: grows in ditches and watery places: common. *Eng. Bot.* vol. xviii. pl. 1250. *Eng. Fl.* vol. i. p. 83. 91.

6. **A. fu'lvus.** Sm. *Orange-spiked Fox-tail-grass.* Culm ascending, bent at the joints; panicle spiked, cylindrical; glumes united at the base, obtuse, fringed; awn as long as the glumes.——This is hardly distinct from the last, the comparative length of the awn and its being inserted higher affording the only remarkable difference. Perennial: flowers in June and July: grows in ditches and watery places: not unfrequent. *Eng. Bot.* pl. 1467. *Eng. Fl.* vol. i. p. 83. 92.

17. KNAPPIA. Smith. KNAPPIA.

Spikelets 1-flowered, arranged on two sides of the rachis into

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a simple spike-like raceme. Glumes 2, nearly equal, carinate, ovate, abrupt, awnless. Glumellas 2, unequal, obovate, membranous, hairy, fringed, awnless, shorter than the glumes. Filaments capillary, twice the length of the glumes; anthers oblong, cleft at both ends. Germen minute, roundish; styles short; stigmas long, cylindrical, acute, downy. Caryopsis ovate, loosely covered by the glumellas.—Named after Mr. Knapp, an English botanist. 30.

1. **K. agrostide'a.** Sm. *Early Knappia.* The only species.——*Root* fibrous: stems from one to three inches high, erect, slender, triangular: leaves short, channelled at the base of the stem: spikelets purplish, nearly sessile. Annual: flowers in March and April: grows in sandy pastures by the sea-shore, in the south of England, Wales, and in Ireland: rare. *Eng. Bot.* vol. xvi. pl. 1127. *Eng. Fl.* vol. i. p. 84. 93.

18. PHLEUM. Linn. CAT'S-TAIL-GRASS.

Panicle spiked. Spikelets compressed. Glumes 2, nearly equal, compressed, pointed, or awned, longer than the flower. Glumellas 2, unequal, smooth, awnless. Filaments capillary; anthers linear, protruded. Germen roundish; styles filiform, spreading; stigmas plumose. Caryopsis oblong, loose.—Name from φλοιος, applied, by the Greeks, to Typha. 31.

1. **P. praten'se.** L. *Common Cat's-tail-grass. Timothy Grass.* Panicle spiked, cylindrical; glumes abrupt, fringed on the keel, longer than the awn.——*Root* fibrous; culms from two to three feet high, knotty, erect: leaves linear, flat, rough, with long sheaths: panicle erect, very close, from two to four inches long, green. In dry pastures, when the plant is small, and the panicle scarcely an inch long, the base of the stem is very usually bulbiform. In this state it is *Ph. nodosum* of Willdenow. Perennial: flowers in the summer months: grows in meadows and pastures: common. *Eng. Bot.* vol. xv. pl. 1078. *Eng. Fl.* vol. i. p. 76. 94.

2. **P. alpi'num.** *Alpine Cat's-tail-grass.* Panicle spiked, between ovate and oblong; glumes abrupt, fringed on the keel, as long as the awns; root knotted.——*Culm* ascending, from six to twelve inches long, smooth: spiked panicles about an inch in length. Perennial: flowers in July: grows on some of the higher mountains of Scotland, as Ben Lawers, and Ben-na-buird; and on Lettery mountain, Galway, Ireland: rare. *Eng. Bot.* vol. xv. pl. 1077. *Eng. Fl.* vol. i. p. 77. 95.

3. **P. Miche'lii.** All. *Michelian Cat's-tail-grass.* Panicles spiked, cylindrical; glumes lanceolate, pointed, fringed on the keel.——*Roots* fibrous: culms from one to two feet high, leafy: leaves flat, rough on the edges: panicle close, about two inches long. Perennial: flowers in July. Found by Mr. G. Don on the rocky parts of the Clova mountains, but as it has not since been met with, its existence there is doubtful. *Eng. Bot.* vol. xxxii. pl. 2265. *Eng. Fl.* vol. i. p. 78. 96.

4. **P. as'perum.** Jacq. *Branched Cat's-tail-grass.* Panicle spiked, cylindrical; glumes wedge-shaped, pointed, rough, with a

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bare keel.——*Root* fibrous: culm about a foot high, branched, smooth: leaves roughish, pointed, erect: panicles terminal, erect, cylindrical, about two inches long. Annual: flowers in July: grows in dry fields: rare. Near Bristol; on Newmarket Heath; in Badmington Park, Gloucestershire; in Bedfordshire, &c. *Eng. Bot.* vol. xv. pl. 1077. *Eng. Fl.* vol. i. p. 77. 97.

5. **P. boehme'rii.** Schrad. *Purple-stalked Cat's-tail-grass.* Panicle spiked, cylindrical; glumes lanceolate, pointed, slightly hairy; straw simple.——*Roots* fibrous: culms about a foot high, erect, purple: glumes purple. Perennial: flowers in July: grows in dry fields. in the western parts of England: rare. Norfolk and Cambridge. *Eng. Bot.* vol. vii. pl. 459. *Eng. Fl.* vol. i. p. 78. 98.

6. **P. arena'rium.** L. *Sea-side Cat's-tail-grass.* Panicle spiked, oblong, enlarged at the top; glumes lanceolate, fringed.——*Root* fibrous: culm about six inches high, leafy below: spiked panicle short, enlarged above: glumellas half the length of the glumes. Perennial: flowers in July: grows in sand on the sea-shore. *Eng. Bot.* vol. iv. pl. 222. *Eng. Fl.* vol. i. p. 79. 99.

19. PHA'LARIS. Linn. CANARY-GRASS.

Panicle spicate or spreading. Spikelets compressed. Glumes 2, nearly equal, carinate, compressed, acute, membranaceous. Glumellas 2, awnless, glabrous or hairy. Filaments filiform; anthers oblong. Styles short, with plumose stigmas. Caryopsis ovate, invested by the indurated glumellas.—Named from φαλος, shining. 32.

1. **P. canarien'sis.** L. *Common Canary-grass.* Panicle ovate, close; glumes keeled, hairy; 2 bare scale-like neuter florets.——About eighteen inches high: culm erect, striated, roughish: leaves lanceolate, soft: panicle erect, compound, resembling an ovate spike, beautifully variegated with green and white: this is a foreign species, the seeds of which, accidentally dropped, sometimes spring up in waste places and upon dunghills; but it cannot be esteemed as even naturalized. Annual: flowers in July: frequent. *Eng. Bot.* vol. xix. pl. 1310. *Eng. Fl.* vol. i. p. 75. 100.

2. **P. arundina'cea.** L. *Reed Canary-grass.* Panicle erect, loose; glumes bearded; neuter florets of 1 or 2 small hairy scales.——*Roots* creeping, sending out large fibres: culms from three to five feet high: leaves lanceolate, striated, smooth: panicle about six inches long, tinged with purple: glumes acute, keeled with a nerve on each side, rough on the keel and nerves. Perennial: flowers in July: grows by the edges of rivers: common. This plant has altogether the appearance of an Arundo; a variety with striped leaves, and called Ribband Grass, is common in gardens. *Eng. Bot.* vol. vi. pl. 402, and vol. xxx. pl. 2160, f. 2. *Eng. Fl.* vol. i. p. 75. 101.

20. CALAMAGROSTIS. Adams. SMALL-REED.

Panicle more or less spreading. Spikelets compressed, 1-flowered. Glumes 2, unequal, lanceolate, pointed, keeled, awnless. Glumellas 2, unequal, the outer larger, lanceolate, keeled, compressed, pointed, awned; the inner cleft at the point,

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inflected at the edges; each flower with numerous soft hairs at the base. 2 minute scales. Filaments threadlike; anthers cleft at both ends. Germen oblong; style short; stigmas feathery. Caryopsis oblong, loose, but enveloped in the glumellas.—Name compounded of καλαμος, a kind of palm, and αγροστις, a kind of grass. 33.

1. C. Epige'jos. L. Roth. *Wood Small-reed.* Glume longer than the glumellas; panicle erect, close, with crowded unilateral flowers; awn of the outer glumella dorsal, as long as the hairs and glumes; leaves lanceolate.——*Culm* about three feet high: panicle smaller, closer, and more erect than in the last: flowers purple, with long silky hairs. Perennial: flowers in July: grows in shady moist places: rare. *Arundo epigejos,* Linn. *Eng. Bot.* vol. vi. pl. 403. *Eng. Fl.* vol. i. p. 170. 102.

2. C. lanceola'ta. Roth. *Purple-flowered Small-reed.* Glume much longer than the glumellas; panicle erect, loose; flowers spreading in all directions; awn terminal, short; hairs longer than the glumellas; leaves linear.——*Culms* about three feet high, smooth, slender; panicle much branched, with purple flowers. Perennial: flowers in July: grows in marshes, and moist woods and hedges. *Arundo calamagrostis,* Linn. *Eng. Bot.* vol. xxx. pl. 2159. *Eng. Fl.* vol. i. p. 170. 103.

3. C. Lappo'nica. Schrad. Hook. *Lapland Small-reed.* Glumes broadly lanceolate, as long as the corolla; panicle erect, close; flower equal in height with the glumes and the awn, which latter is inserted near the base.——*Culm* about three feet high: leaves narrow, rigid; branches of the panicle spreading only during flowering: flowers at first tinged with purplish blue, afterwards becoming yellowish brown. Perennial: flowers in June and July: grows in moist places in Ireland: very rare. Discovered by Mr. D. Moore at Lough Neagh, Antrim. *Calamagrostis Lapponica. Brit. Fl.* 4th ed. p. 34. But now considered by Hooker and Babbington as identical with the next. 104.

4. C. stri'cta. Schrad. Nutt. *Close Small-reed.* Glumes ovate, acute, scarcely longer than the glumellas; panicle erect, close; flowers spreading in all directions, with a dorsal awn; hairs shorter than the glumellas.——*Culm* about two feet high, very slender, smooth: flowers brown, with the hairs short. Perennial: flowers in June: found by Mr. G. Don in the White Mire near Forfar, but has not been found since. Oakmere, Cheshire. *Eng. Bot.* vol. xxx. pl. 2150. *Eng. Fl.* vol. i. p. 171. 105.

21. AMMO'PHILA. Host. SEA-REED.

Panicle somewhat spiked. Spikelets compressed. Glumes 2, nearly equal, membranaceous, carinate, longer than the floret. Glumellas 2, each with a tuft of short hairs at the base, the outer with a very short awn below the tip; 1 very minute, sessile, neuter floret.—Named from αμμος, sand, and φιλος, a lover. 34.

1. A. arena'ria. L. *Common Sea-reed. Mat-grass. Sea Bent.* Panicle subcylindrical, attenuated at both ends: glumes acute; leaves involute,

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pungent.——*Root* creeping, often twenty feet long: culm stiff, greenish yellow: leaves very long, mostly radical: panicle close, linear: glumes unequal, membranous, rough on the keel. Very few of the seeds are perfected. This plant is common on the coasts, wherever there is loose sand, which it serves to bind down by its long tough roots. It is manufactured into door mats and floor brushes. In the Hebrides it is made into ropes for various uses; mats for pack-saddles, bags and vessels for holding and preparing meal and grain, and into hats. It has also been planted in the outer Hebrides, for curing sand-drift. With us it is the principal *cause* of the formation of the ranges of sand-hillocks that skirt our eastern coasts, as I have determined by protracted observation. It is in this way highly beneficial, and ought to be strictly protected. Perennial: flowers in July. The specific name imposed by Linnæus must be retained:—*Arundo arenaria. Syst. Nat.* vol. ii. p. 100. *Eng. Bot.* vol. viii. pl. 520. *Eng. Fl.* vol. i. p. 172. 106.

22. POLYPO'GON. Desf. BEARD-GRASS.

Panicle subspicate. Spikelets compressed, 1-flowered, of 2 nearly equal, keeled, cleft glumes, each with a terminal awn. Glumellas 2, ovate, inclosed within the glumes; the outer keeled and awned. Filaments hair-like, as long as the corolla; anthers oblong, cleft at both ends. Germen oval; styles short, distinct; stigmas feathery. Caryopsis loose, ovate, covered by the glumes. Named from πολυς, much, and πωγων, beard. 35.

1. P. Monspelien'sis. Desf. *Annual Beard-grass.* Awns straight, thrice the length of the glumes; root fibrous.——*Culms* a foot high, simple, smooth: leaves flat, acute, striated, rough on the edges and ribs: panicle pale. Annual: flowers in July and August: grows in moist pastures in Hampshire, Essex, and Norfolk: rare, apparently indigenous in the south, and in the north, as at Durham and Inverkeithing, imported in ballast. *Eng. Bot.* vol. xxiv. pl. 1704. *Eng. Fl.* vol. i. p. 86. 107.

2. P. littora'lis. Sm. *Perennial Beard-grass.* Awns straight, about the length of the glumes; root creeping.——*Culms* about a foot high, branched, smooth: leaves rough on both sides and on the edges: panicle purplish. Perennial: flowers in July and August: grows in salt marshes in Norfolk and Essex: rare. *Eng. Bot.* vol. xviii. pl. 1251. *Eng. Fl.* vol. i. p. 87. 108.

23. MI'LIUM. Linn. MILLET-GRASS.

Panicle spreading. Spikelets somewhat compressed. Glumes 2, unequal, ovate, tapering, awnless. Glumellas 2, unequal, ovate, inclosed within the glumes, the outermost sometimes awned on the back. Scales membranous, cleft. Filaments hair-like, very short. Germen ovate, styles united, or very short. Caryopsis ovate, covered with the hardened glumellas. —Named from *mille*, a thousand (seeds). 36.

1. M. effu'sum. L. *Spreading Millet-grass.* Flowers awnless, in a loose, spreading panicle.——*Root* fibrous: culms about four feet

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high, slender, smooth: leaves broad, flat, bright green: panicle large, widely-spreading. Perennial: flowers in June and July: grows in moist shady places: frequent. *Eng. Bot.* vol. xvi. pl. 1106. *Eng. Fl.* vol. i. p. 87. 109.

24. GASTRI'DIUM. Beauv. NIT-GRASS.

Panicle spicate. Spikelets slightly compressed. Glumes 2, membranaceous, ventricose, and rounded below, carinate above, much longer than the flower. Glumellas 2, membranaceous, the outer truncate or toothed, with a long straight awn below the point. Filaments capillary; anthers cleft. Germen ovate. Caryopsis covered with the hardened glumellas. 37.

1. G. lendi'gerum. Beauv. *Panick Millet-grass.* Flowers awned, in a dense, spiked panicle; glumes lanceolate, acuminate.——*Root* fibrous: culms six or eight inches high: panicle erect, very close, tapering, pale green. Annual: flowers in August: grows in moist meadows, in England; Sheppey; Weymouth; Gillingham: not common. *Eng. Bot.* vol. xvi. pl. 1107. *Eng. Fl.* vol. i. p. 88. 110.

25. AGROS'TIS. Linn. BENT-GRASS.

Panicle loose. Spikelets compressed. Glumes 2, unequal, acute, keeled, awnless, permanent, containing 1 flower. Glumellas 2, unequal, membranous, ribbed, tufted with hairs at the base, the larger frequently bearing an awn; 2 minute scales. Filaments hair-like, rather longer than the glumes; anthers deeply divided at each end. Germen ovate; styles short; stigma densely hairy. Caryopsis ovate, shining, loose, enveloped in the unaltered glumes.—Named from ἀγρος, a field. 38.

* *Awned.*

1. A. Spi'ca-ven'ti. L. *Silky Bent-grass.* Awn straight, stiff, many times longer than the glumellas; panicle loosely spreading.——*Culm* two or three feet high, erect, smooth: leaves ribbed, spreading: panicle large, silky-looking: outer glume rough with tubercles, bifid, inner cleft at the point: anthers oblong. Annual: flowers in June and July: grows in sandy fields in England: rare. *Eng. Bot.* vol. xiv. pl. 951. *Eng. Fl.* vol. i. p. 89. 111.

2. A. interrup'ta. L. *Dense-flowered Silky Bent-grass.* Awn straight, stiff, many times longer than the glumellas; panicle contracted, long.——*Culm* two or three feet high, erect, smooth: outer glume bifid: anthers broadly oval. Scarcely different from the last. Annual: flowers in June and July: grows in sandy fields, about Thetford: rare. *Eng. Bot. Suppl.* pl. 2951. 112.

3. A. cani'na. L. *Brown Bent-grass.* Awn arising from below the middle of the glume, curved inwards, twice the length of the glumes; stems decumbent, with prostrate shoots; stipules lanceolate. ——*Root* creeping: culms more or less decumbent and rooting at the base, about two feet long, slender, smooth: leaves roughish on both sides: panicle spreading when in flower, with threadlike, angular, rough branches: inner glumella very small or wanting. Perennial: flowers in June and July: grows in meadows and pas-

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tures: common. *Eng. Bot.* vol. xxvi. pl. 1856. *Eng. Fl.* vol. i. p. 90. 113.

4. **A. seta'cea.** Curr. *Bristle-leaved Bent-grass.* Awn from near the base of the glume, curved inwards; glumellas lanceolate, tapering, rough; root-leaves bristle-shaped; culm nearly erect; panicle close.——*Root* tufted: culms about a foot high, slender, smooth: stipules lanceolate: panicles cylindrical, with angular, bristly branches: inner glumella very small. Perennial: flowers in July and August: grows on dry heaths in the south of England. *Eng. Bot.* vol. xvii. pl. 1188. *Eng. Fl.* vol. i. p. 91. 114.

** *Generally awnless.*

5. **A. vulga'ris.** With. *Fine Bent-grass.* Panicle spreading, with smooth, divaricated hair-like branches; glumes nearly equal; culm erect or ascending; stipules very short, abrupt.——*Root* creeping: from a few inches to a foot or more high: panicle smooth, purplish: glumes lanceolate, smooth, rough on the back: glumellas unequal, membranaceous, outer 3-nerved, 3-toothed, awned, or awnless. In dry mountainous situations it is often only three or four inches long, and is *A. pumila* of Lightfoot. Perennial: flowers in July and August: grows in meadows and pastures: common. *Eng. Bot.* vol. xxiv. pl. 1671. *Eng. Fl.* vol. i. p. 92. 115.

6. **A. al'ba.** L. *Marsh Bent-grass.* Panicle spreading, with rough branches: glumes lanceolate, bristly on the keel; culm oblique, creeping in its lower part; stipules oblong.——*Root* and stems creeping, and sending out long prostrate shoots: panicle at length spreading, with tufted branches, and green or purple flowers. Perennial: flowers in June and July: grows in moist meadows, and places inundated in winter, and on the other hand frequently in dry sand, exhibiting great diversity of appearance: common. This is the famous Fiorin-grass of agriculturists. It hardly deserves the notice which it has received. Wild geese and ducks are fond of its juicy stems and roots, which have a sweet taste. *Eng. Bot.* vol. xvii. pl. 1189, and vol. xxii. pl. 1532. *Eng. Fl.* vol. i. p. 93. 116.

26. LAGU'RUS. Linn. HARE'S-TAIL-GRASS.

Panicle spicate. Spikelets compressed. Glumes 2, long, slender, membranous, fringed, as well as their terminal awn, with numerous soft hairs. Glumellas 2, unequal; the outer longest, ovate, terminating in 2 equal erect awns, shorter than the glumes, and bearing a much longer awn from the middle of its back, twisted in its lower part, straight in the upper; inner glumella smaller, involute, cleft, awnless. Scale deeply-cleft, acute. Filaments hair-like, shorter than the glumes; anthers erect, oblong, cleft at both ends. Germen oblong; styles very short; stigmas cylindrical, feathery. Caryopsis oblong, obtuse, loose, enveloped in the unaltered glumellas.—Name, λαγως, a hare, and οὐρα, a tail. 39.

1. **L. ova'tus.** L. *Ovate Hare's-tail-grass.* The only species.——*Culms* about a foot high, erect, round: leaves lanceolate, acute, ribbed, downy on both sides; sheaths inflated, ribbed, very downy: spike

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ovate, many-flowered, woolly. Annual: flowers in June: grows in sandy ground: very rare. Guernsey. *Eng. Bot.* vol. xix. pl. 1334. *Eng. Fl.* vol. i. p. 167. 117.

27. SPARTI'NA. Willd. CORD-GRASS.

Spikes compressed. Spikelets 1-flowered; glumes 2, unequal, lanceolate, keeled, compressed; the inner cleft at the end. Glumellas 2, lanceolate, bluntish, compressed, awnless, the inner rather longer. Filaments hair-like, not so long as the glumes; anthers erect, linear, cleft at the base. Germen elliptical; styles united for a great part of their length, separate at the top; stigmas feathery, slender. Caryopsis oblong, compressed, loose, covered by the unaltered glumellas.—Named from its resemblance to *Lygeum Spartum.* 40.

1. S. stri'cta. Sm. *Twin-spiked Cord-grass.* Spikes 2 or 3; flowers very hairy; leaves shorter than the spikes, tapering at the base, and jointed upon the sheath.——*Root* creeping: the whole plant remarkably stiff: culm a foot or more in height: spikes erect, straight, close together. Perennial: flowers in August: grows in muddy salt marshes on the east and south-east coasts of England: rare. *Eng. Bot.* vol. vi. pl. 389. *Eng. Fl.* vol. i. p. 136. 118.

2. S. alternifo'lia. Loisel. *Many-spiked Cord-grass.* Spikes numerous, flowers glabrous; leaves equal to or longer than the spikes, dilated at the base and continuous with the sheath.——*Much* taller than the preceding. Perennial: flowers in August: grows in muddy salt marshes: extremely rare. Discovered in 1836 by Dr. Bromfield, at Itchin Ferry, Southampton. *Comp. to Bot. Mag.* vol. ii. p. 254. *Eng. Bot. Suppl.* pl. 2812. *Brit. Fl.* 4th ed. p. 53. 119.

28. CY'NODON. Rich. DOG'S-TOOTH-GRASS.

Panicle in the form of a compound raceme. Spikelets almost sessile, in a single row, compressed. Glumes 2, nearly equal, lanceolate, acute, keeled, awnless, containing a single perfect and a rudimentary neuter flower. Glumellas 2, unequal, keeled, compressed, awnless, the outer much broader and embracing the other; 2 minute scales. Filaments rather longer than the glumes; anthers cleft at both ends. Germen ovate; styles distinct; stigma feathery. Involucre ovate, invested by the hardened glumellas.—Named from κυων, a dog, and ὀδους, a tooth. 41.

1. C. Dac'tylon. Pers. *Creeping Dog's-tooth-grass.* Spikes 4 or 5, crowded; glumes smooth.——*Root* creeping, rough: culms creeping, round, smooth: leaves tapering, hairy, with long, smooth sheaths: flowering branches about six inches high, each bearing 4 or 5 linear spikes. Perennial: flowers in July and August: grows on the sandy shores of Cornwall, Dorset, and Devon. *Eng. Bot.* vol. xii. pl. 850. *Eng. Fl.* vol. i. p. 95. 120.

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29. DIGITA'RIA. Scop. FINGER-GRASS.

Spike compound. Spikelets in pairs on short stalks, arranged on one side of the partial rachis. Glumes 2, very unequal, awnless; the outer minute, triangular. Glumellas 2, unequal, elliptical, awnless. Filaments capillary, rather longer than the glumes; anthers short, cleft at both ends. Germen ovate, styles filiform, about the length of the stamens; stigmas short, feathery. Caryopsis ovate, closely invested by the hardened polished glumellas.—Named from *digitus*, a finger. 42.

1. D. sanguina'lis. Scop. *Cock's-foot Finger-grass.* Leaves and their sheaths somewhat hairy; flowers in pairs; rough at the outer edges.——*Root* fibrous: culms decumbent and rooting at the base; about a foot long, striated, smooth: leaves broad, pointed, striated, sprinkled with warts: spikes from 3 to 8, crowded at the top of the culm: flowers dark purple, erect: larger glumella 5-ribbed, with rough edges. Annual: flowers in July and August: grows in various parts of England, in sandy cultivated fields: rare. *Eng. Bot.* vol. xii. pl. 849, *Panicum sanguinale. Eng. Fl.* vol. i. p. 97. 121.

2. D. humifu'sa. Pers. *Smooth Finger-grass.* Leaves and their sheaths smooth; flowers ovate, downy.——*Root* fibrous: stalks spreading: flowers purple. Annual: flowers in July and August: grows in sand at Weybridge, in Surrey, where it was found by Mr. Borrer. This and the above have probably been introduced into Britain with foreign corn. *Eng. Bot. Suppl.* pl. 2613. *Brit. Fl.* 4th ed. p. 54. 122.

30. LEER'SIA. Soland. LEERSIA.

Panicle lax. Spikelets compressed. Glumes wanting. Glumellas 2, chartaceous, much compressed, carinate, awnless, nearly equal in length, the lower much broader. Filaments capillary; anthers oblong. Germen roundish, with the styles of moderate length; the stigmas plumose, protruded from the side of the spikelet. Caryopsis included in the glumellas.—Named after J. D. Leers, a German botanist. 43.

1. L. oryzo'ides. L. Swarz. *European Leersia.* Panicle spreading, with flexuous branches; spikelets semi-oval, ciliated, triandrous.——*Perennial:* flowers in autumn: grows in ditches, brooks, and wet meadows: rare: near Henfield and Arundel, Sussex; near Brockenhurst Bridge, Hants. *Phalaris oryzoides*, Linn. *Eng. Bot. Suppl.* pl. 2908. Hook. and Arn. *Br. Fl.* p. 516. 123.

31. AI'RA. Linn. HAIR-GRASS.

Panicle lax. Spikelets compressed, with 2 perfect flowers, and sometimes a neuter, usually rudimentary. Glumes 2, unequal, keeled. Glumellas 2, oblong, unequal, the outer larger, generally with a twisted awn arising from above the base, the inner notched and awnless. A cleft scale. Filaments capillary; anthers protruded, pendulous, notched at both ends. Germen ovate; styles short, distinct; stigma large, feathery. Cary-

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opsis ovate, loose, covered with the membranous glumellas.—Named from *aloa*, to destroy, formerly applied to *Lolium temulentum*. 44.

1. **A. cæspito'sa.** L. *Turfy Hair-grass.* Panicle spreading, with scabrous branches; flowers about the length of the glumes, abrupt, hairy at the base; awn short, from the lower part of the outer glumella; leaves flat.——*Culms* from two to four feet high, erect, smooth, growing in large tufts: panicle large, much branched, with small silvery purplish flowers. It varies considerably in aspect, and in elevated situations is apt to be mistaken for *A. alpina*. Perennial: flowers in June and July: grows in moist shady places, at all elevations from the sea-shore to alpine ravines: common. *Eng. Bot.* vol. xxi. pl. 1453. *Eng. Fl.* vol. i. p. 102. 124.

2. **A. alpi'na.** L. *Smooth Alpine Hair-grass.* Panicle rather close, with smooth branches; flowers acute, the length of the glumes; awn short, from near the top of the outer glumella; leaves involute. ——*Culms* about a foot high: leaves rough on the upper side: panicle with shining brownish flowers. on nearly erect branches. Perennial: flowers in July: grows on the higher mountains of Scotland and Wales: common. *Eng. Bot.* vol. xxx. pl. 2102: *A. lævigata. Eng. Fl.* vol. i. p. 103. 125.

3. **A. flexuo'sa.** L. *Waved Hair-grass.* Panicle spreading, with waved branches; flowers acute, as long as the glumes; awn from the middle or near the base of the outer glumella, twisted; leaves bristle-shaped.——*Culm* upwards of a foot high, erect, smooth: leaves short: panicle erect, with waved angular branches and flower-stalks, and shining brown flowers. Perennial: flowers in July: grows in heathy places and on dry banks, from the sea-shore to near the summit of the highest mountains: common. *Eng. Bot.* vol. xxii. pl. 1519. *Eng. Fl.* vol. i. p. 104. 126.

4. **A. canes'cens.** L. *Gray Hair-grass.* Panicle rather close; flowers shorter than the glumes; awn short, club-shaped; leaves bristle-shaped.——*Culms* about six inches high: leaves numerous, chiefly radical, forming dense tufts: panicle with numerous small flowers variegated with purple, green, and white. Perennial: flowers in July: grows on the sandy coasts of Norfolk and Suffolk; Jersey. *Eng. Bot.* vol. xvii. pl. 1190. *Eng. Fl.* vol. i. p. 105. 127.

5. **A. caryophyl'lea.** L. *Silver Hair-grass.* Panicle spreading; flowers sessile, not longer than the glumes; awn from below the middle of the outer glumella, twice its length; leaves bristle-shaped. ——*Generally* about six inches high: panicle 3-forked, with silvery flowers. Annual: flowers in June and July: grows on dry pastures and in gravel pits: common. *Eng. Bot.* vol. xii. pl. 812. *Eng. Fl.* vol. i. p. 107. 128.

6. **A. præ'cox.** L. *Early Hair-grass.* Panicle close, erect; flowers sessile, as long as the glumes; awn from the base of the glumella, nearly twice its length; leaves bristle-shaped.——*Culm* from two to five inches high; panicle with angular rough branches, and pale, purplish flowers. This and the preceding species wither very soon, when the season is dry. Perennial: flowers in May

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and June: grows in dry sandy pastures: common. *Eng. Bot.* vol. xviii. pl. 1296. *Eng. Fl.* vol. i. p. 106. 129.

32. CATABRO'SA. Beauv. WHORL-GRASS.

Panicle spreading. Spikelets slightly compressed, ovate, with from 1 to 3 perfect flowers. Glumes 2, membranaceous, 1-nerved, very obtuse, the lower smaller, the upper crenate or dentate at the end. Glumellas 2, nearly equal, coriaceous, 3-ribbed, membranaceous, truncate, and erose at the end. Filaments capillary; anthers oblong. Germen roundish. Caryopsis free.—Named from καταβρωσις, a gnawing. 45.

1. C. aqua'tica. L. Beauv. *Water Whorl-grass.* Panicle with semiverticillate spreading branches: leaves broadly linear, flat, obtuse; ligule oblong.——*Root* very long, branched, creeping; stems floating, branched, smooth, rising obliquely about a foot out of the water: spikelets small, silvery-purplish. Perennial: flowers in June and July: grows in ditches, pools, and by the margins of streams: not uncommon. *Aira aquatica,* Linn. *Eng. Bot.* vol. xxi. pl. 1453. *Eng. Fl.* vol. i. p. 102. 130.

33. KOELE'RIA. Pers. KOELERIA.

Panicle spicate, subcylindrical. Spikelets compressed, distichous, with 2 or 3 perfect flowers. Glumes 2, unequal, membranaceous, naked at the base, the outer carinate, pointed, or with a subterminal bristle. Filaments capillary; anthers linear, cleft. Germen roundish. Caryopsis free.—Named after George L. Koeler. 46.

1. K. crista'ta. L. Pers. *Crested Koeleria.* Panicle dense, interrupted below; glumes shorter than the flowers; outer glumella 3-ribbed; leaves hairy on the margin.——*Root* forming a dense tuft of downy fibres: culms erect, six or nine inches high: panicle oblong, silvery-purplish. Perennial: flowers in July and August: grows in dry pastures, and is generally distributed. *Aira cristata,* Linn. *Eng. Bot.* vol. ix. pl. 1557. *Eng. Fl.* vol. i. p. 101. 131.

34. MOLI'NIA. Mœnch. MOLINIA.

Panicle narrow or spreading. Spikelets oblong, with from 1 to 4 or 5 perfect flowers. Glumes 2, unequal, acute, 1-nerved, shorter than the flowers. Glumellas 2, the outer rounded on the back, glabrous, acute. Filaments capillary; anthers protruded. Germen roundish; styles long. Caryopsis oblong, loosely invested by the hardened glumellas.—Named after Don Giovanni Ignatio Molinia, a Spanish naturalist. 47.

1. M. cœru'lea. L. Mœnch. *Purple Melic-grass.* Panicle close, erect; spikelets cylindrical, erect.——*Root* large, of numerous long, thick fibres: culm about two feet high, enlarged at the base: leaves covered with scattered hairs above: panicle oblong, with numerous waved branches, and purplish brown flowers. This grass is occasionally made into ropes in the Hebrides. The butter of cows which feed upon it is very rich, and highly-coloured. Slender indi-

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viduals with pale green 1-flowered spikelets, have by some been made a species, by others a variety. *M. depauperata*, Lindl. Perennial: flowers in June and July: grows abundantly on heaths, especially such as are moist. *Eng. Bot.* vol. xi. pl. 750. *Eng. Fl.* vol. i. p. 113. 132.

35. MELICA. Linn. MELIC-GRASS.

Panicle or raceme lax. Spikelets ovate, with 1 or 2 perfect flowers, and rudiments of 1 or 2 others. Glumes 2, nearly equal, shorter than the flowers, many-nerved. Glumellas 2, the outer rounded on the back, entire, the inner flat. Filaments capillary; anthers protruded, pendulous. Ovary roundish; styles long, with short stigmas. Caryopsis ovate, loose, within the hardened glumellas. Name from *mel*, honey. 48.

1. M. uniflo'ra. L. *Wood Melic-grass.* Panicle branched, slightly drooping towards one side; flowers erect; spikelets with only one perfect flower.——*Root* creeping: culm about eighteen inches high, smooth, slender: leaves with the ribs and edges rough: panicle of a few very slender branches: flowers variegated with white, green, and brown. Perennial: flowers in May and June: grows in woods: not uncommon. *Eng. Bot.* vol. xv. pl. 1058. *Eng. Fl.* vol. i. p. 112. 133.

2. M. nu'tans. L. *Mountain Melic-grass.* Panicle close, nearly simple, drooping; flowers pendulous; spikelet with two perfect flowers.——*Root* creeping: culm about a foot high: leaves nearly smooth: panicle generally with undivided branches. Perennial: flowers in June and July: grows in woods, chiefly in Scotland and the north of England: frequent. *Eng. Bot.* vol. xv. pl. 1059. *Eng. Fl.* vol. i. p. 113. 134.

36. HOL'CUS. Linn. SOFT-GRASS.

Panicle lax. Spikelets compressed, 2-flowered. Glumes 2, unequal, keeled, awnless, one of the flowers perfect, the other with an abortive germen. Glumellas 2, equal; the larger ovate, keeled, awned on the back; the smaller much narrower, awnless. Filaments 3 in both flowers; anthers notched at both ends. Styles short, spreading; stigmas large, feathery. Caryopsis coated with the hardened permanent glumellas.—Name ὁλκος of the Greeks. 49.

1. H. mol'lis. L. *Creeping Soft-grass.* Perfect flower inferior, awnless; imperfect flower with a bent awn exceeding the glumes; root creeping.——*Culm* about three feet high: generally smooth, with the knots downy: leaves narrow lanceolate, acute, smoothish, or slightly downy, rough at the margin: glumes nearly equal, smoothish, hairy on the keel: flowers shining, the upper hairy at the base. Perennial: flowers in July: grows in moist pastures and by old walls: common. *Eng. Bot.* vol. xvii. pl. 1170. *Eng. Fl.* vol. i. p. 108. 135.

2. H. lana'tus. L. *Meadow Soft-grass.* Perfect flower inferior, awnless; imperfect flower with a curved awn included in the glumes; root fibrous.——*Culm* about two feet high: the whole plant, parti-

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cularly the leaves, covered with a very soft short down: glumes nearly equal, downy: flowers shining, the upper with a tuft of hairs at the base. The principal difference between this and the last is in the length of the awn. Perennial: flowers in July: grows in meadows, pastures, and woods, and by roads: abundant. *Eng. Bot.* vol. xvii. pl. 1169. *Eng. Fl.* vol. i. p. 108. 136.

37. ARRHENATHERUM. Beauv. OAT-LIKE-GRASS.

Panicle lax. Spikelets compressed, 2-flowered, with an upper rudimentary neuter flower. Glumes 2, nearly equal, membranaceous. Lower flower male, with 2 glumellas; upper flowers perfect, with 2 glumellas, the outer with a short bristle below the point. Filaments 3 in both flowers; anthers notched at both ends. Styles short, spreading; stigmas large, feathery. Caryopsis invested with the hardened glumellas.—Name from ἀρρὴν, male, and ἀθὴρ, an awn. 50.

1. A. avena'ceum. L. Beauv. *Common Oat-like-grass.* The perfect flower superior, with a short awn, the imperfect flower with a long geniculate awn; root knotted.——*Height* from two to four feet, or more: the lower part of the culm has a number of very short joints, which are enlarged above, forming yellowish juicy knots, resembling roots: leaves narrow lanceolate, thinly hairy above: panicle long, with half-whorled branches: imperfect flower with a long awn, bent near the middle, inserted above the base; perfect flower with a short awn, inserted below the tip. Perennial: flowers in July and August: grows by roads and old walls, and in corn-fields, where it is difficult to be extirpated. In many districts it is so abundant, that the farmers collect the roots into heaps and burn them. *Eng. Bot.* vol. xii. pl. 813. *Eng. Fl.* vol. i. p. 109. 137.

38. PA'NICUM. Linn. PANICK-GRASS.

Panicle racemose. Spikelets flat in front, rounded on the back, 2-flowered, without bristles at the base. Glumes 2, very unequal, ribbed, the inner much larger, elliptical, generally awnless. One flower perfect, the other either neutral or staminiferous; the former of 2 unequal, membranous, acute glumellas, the latter of 1 or 2 glumellas; the outer of the texture of the glumes, concave ribbed, sometimes awned, the inner flat, awnless, often wanting. Filaments capillary, as long as the corolla; anthers short, cleft at both ends. Germen ovate; styles distinct, awl-shaped, as long as the stamens; stigmas feathery, short. Caryopsis ovate, flattened on one side, closely invested with the hardened glumellas.—Name uncertain, perhaps from *panis*, bread. 51.

1. P. Crus-galli. L. *Loose Panick-grass.* Panicle erect, branched, bristly; flowers awned, unilateral; leaves lanceolate, acuminate, scabrous above, harsh, destitute of ligules.——*Root* fibrous: stems about a foot high, smooth: sheaths of the leaves smooth: panicle erect, stiff, unilateral, with angular rough-edged stalks. Annual: flowers in July and August: grows in wet corn-fields near London: rare. This species is not indigenous, having been apparently intro-

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duced among corn. *Eng. Bot.* vol. xiii. pl. 876. *Eng. Fl.* vol. i. p. 100. 138.

39. SETA'RIA. Beauv. BRISTLE-GRASS.

Panicle in a compound somewhat cylindrical spike. Spikelets flat in front, rounded on the back, 2-flowered, with an involucre of bristles. Glumes 2, awnless: the lower much smaller. Lower flower staminiferous, its outer glumellas as long as the upper glume: upper flower perfect. Caryopsis closely enveloped by, and partly adherent to, the hardened glumella.—Name from *seta*, a bristle. 52.

1. **S. verticilla'ta.** L. Beauv. *Rough Bristle-grass.* Panicle spiked, cylindrical, lobed with whorled branches; flowers in pairs, accompanied with angular bristles, rough with reversed teeth.——*Root* fibrous: culms two feet high, smooth, spreading: leaves lanceolate, rough on both sides, with long smooth sheaths: stipules of numerous short hairs: glumes pale, with green ribs, smooth: glumellas minutely wrinkled. Annual: flowers in July and August: grows in corn-fields about London and Norwich: rare. *Panicum verticillatum.* L. *Eng. Bot.* vol. xiii. pl. 874. *Eng. Fl.* vol. i. p. 98. 139.

2. **S. vi'ridis.** L. Beauv. *Green Bristle-grass.* Panicle spiked, cylindrical, continuous, with numerous prominent bristles, rough, with erect teeth.——*Smaller* than the last, but closely resembling it, the principal difference lying in the more numerous bristles with teeth directed upwards. Annual: flowers in July and August: grows in sandy fields about London and Norwich: rare. *Panicum viride,* L. *Eng. Bot.* vol. xiii. pl. 875. *Eng. Fl.* vol. i. p. 99. 140.

3. **S. glau'ca.** Beauv. *Glaucous Bristle-grass.* Panicle spiked; involucral bristles with erect teeth: glumellas transversely rugose.——*Culm* ascending, branched: leaves linear-lanceolate, bearded at the base: lower flower with 2 glumellas and 3 stamens. Annual: flowers in September: found by Mr. Borrer at Weybridge, Surrey. Neither this nor the two preceding are considered indigenous. Hook. and Arn. *Brit. Fl.* 533. 141.

40. HIERO'CHLOE. Gmel. HOLY-GRASS.

Panicle mostly lax. Spikelets compressed, 3-flowered. Glumes 2, nearly equal, ovate, acute, awnless, membranous. Upper flower perfect, the others staminiferous. Glumellas 2, unequal, membranous; the outer larger, ovate; the inner much narrower, extremely thin, notched, inflected at the edges. Filaments capillary, 2 in the perfect flower, 3 in the barren ones; anthers linear, protruded, pendulous. Germen ovate; styles short, distinct; stigmas linear, feathery. Caryopsis ovate, small, loose, invested by the unaltered glumellas.—Named from ἱερος, sacred, and χλοη, grass. 53.

1. **H. odera'ta.** L. Gmel. *Sweet-scented Holy-grass.* Panicle somewhat unilateral, with smooth flower-stalks; perfect flower awnless, the others slightly awned; leaves flat.——*Root* creeping: culm from twelve to eighteen inches high, erect, smooth: panicle erect, with

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waved branches; outer glumes fringed. Having an agreeable odour, like that of *Anthoxanthum odoratum*, it is used in Iceland for scenting rooms and clothes. Perennial: flowers in May and June: found by Mr. G. Don in the valley of Kella, in Angus-shire; but has not been met with since. *Holcus odoratus*. Linn. *Eng. Bot. Suppl.* pl. 2641. *Eng. Fl.* vol. i. p. 111. 142.

41. SESLE'RIA. Linn. MOOR-GRASS.

Panicle spiked, rounded. Spikelets distichous. Glumes 2, nearly equal, pointed, keeled, slightly awned, containing 2 or 3 perfect flowers. Glumellas 2, lanceolate, acute, the outer toothed, the inner cleft. Filaments capillary, a little longer than the glumes; anthers protruded, linear, notched at both ends. Germen small, ovate. Styles united; stigma long, downy. Caryopsis loose, covered with the membranous glumellas.—Named after *Leonard Sesler*, an Italian botanist. 54.

1. S. cœru'lea. L. *Blue Moor-grass.* Panicle ovate, bracteated; outer glumella with 3 teeth.——*Root* of long fibres: culm about eight inches high. smooth: leaves rough on the edges and keel, with short sheaths: panicle erect, bluish-gray, shining; glumes and outer glumella fringed, the latter with 3 teeth at the end, the middle tooth lengthened into an awn. Perennial: flowers in April and May: grows on mountains in Scotland and the north of England. *Eng. Bot.* vol. xxiii. pl. 1613. *Eng. Fl.* vol. i. p. 114. 143.

42. GLYCE'RIA. Sm. SWEET-GRASS.

Panicle loose or contracted, sometimes spiciform. Spikelets subcylindrical, of numerous awnless flowers. Glumes 2, unequal, awnless, unconnected by a web at the base. Glumellas 2, unequal; the outer cylindrical, ribbed, entire, more or less abrupt, with inflected edges; the inner narrower, obtuse or notched, flat, membranous, with two marginal ribs. Filaments capillary longer than the corolla; anthers pendulous, linear, cleft at both ends. Germen ovate; styles distinct; stigmas spreading, feathery, repeatedly branched. Caryopsis oblong, loose, covered with the unaltered glumellas.—Name from γλυκυς, sweet. 55.

1. G. aqua'tica. L. Sm. *Reedy Sweet-grass.* Panicle erect, repeatedly branched; spreading; spikelets with numerous obtuse, 7-ribbed flowers.——*Culm* six feet high, stout: leaves broad, flat, rough on the keel and edges: panicle large, with half-whorled branches: spikelets of from 5 to 10 flowers. This is one of the most beautiful, as well as one of the largest of our grasses. It is eaten by cattle, and deserves to be cultivated, as it would yield an abundant crop in moist land. Perennial: flowers in July: grows by the margin of rivers: not common. *Poa aquatica*. Linn. *Eng. Bot.* vol. xix. pl. 1315. *Eng. Fl.* vol. i. p. 116. 144.

2. G. flu'itans. L. Sm. *Floating Sweet-grass.* Panicle slender, very long, slightly branched; spikelets with numerous obtuse, 7-ribbed, cylindrical flowers.——*Root* creeping, long: culms partly floating, as are many of the linear, flat, obtuse leaves: panicle nearly erect, narrow, with roughish branches: spikelets erect, long, linear,

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of from 8 to 12 flowers: outer glumellas cylindrical, obtuse. It varies remarkably in size, the length of the spikelets, the number of flowers of which they are formed, and some other particulars, and has afforded materials for species, as *plicata* and *hybrida*, which depend upon very insignificant and variable characters; such as glumellas twice as long as broad, or thrice as long; anthers five times or three times as long as broad. Perennial: flowers in June and July: grows in ditches and stagnant waters: common. *Poa fluitans.* Linn. *Eng. Bot.* vol. xxii. pl. 1520. *Eng. Fl.* vol. i. p. 117. 145.

3. G. mari'tima. Huds. Sm. *Creeping Sea-sweet-grass.* Panicle branched, rather close; spikelets with about 5, slightly 5-ribbed, somewhat pointed flowers; root creeping.——*Culms* about a foot high: leaves involute, pointed: flowers cylindrical, hairy at the base. Perennial: flowers in July and August: grows on the sea-coast: frequent. *Schlerochloa m.* Lindl. Bab. *Eng. Bot.* vol. xvi. pl. 1140. *Eng. Fl.* vol. i. p. 116. 146.

4. G. dis'tans. L. Sm. *Reflexed Sweet-grass.* Panicle branched, spreading; spikelets with about 5, obscurely 5-ribbed, blunt, shining flowers; root fibrous.——*Culms* about a foot high: decumbent at the base: the whole plant slightly glaucous; panicle erect, with half-whorled, rough branches: flowers cylindrical. Perennial: flowers in July and August: grows near the coast in sandy pastures: rare. *Poa distans.* L. *Eng. Bot.* vol. xiv. pl. 986. *Eng. Fl.* vol. i. p. 118. *Schlerochloa d.* Bab. 147.

5. G. Bor'reri. Bab. *Borrer's Sweet-grass.* "Panicle branched, branches ultimately erect-patent, lowermost generally in fours; spikelets linear, four or seven flowers; rachis terete, outer pale with a rigid apiculus formed by the extremity of the dorsal nerve, root cespitose."——*Culms* from six inches to a foot high. Muddy salt marshes in the south-east of England. *Eng. Bot. Suppl.* 2797. *Schlerochloa Borreri.* Bab. Man. 2 ed. 393. 148.

6. G. procum'bens. Curt. Sm. Panicle lanceolate, 2-rowed, unilateral, close, with rough stalks; spikelets of 5 bluntish, 5-ribbed flowers.——*Root* fibrous: the whole plant glaucous: culms about eight inches long, procumbent: outer glumella cylindrical, its central rib more prominent towards the summit: inner glumella bristly at the lateral ribs. Perennial: flowers in July and August: grows in pastures near the sea: common. *Eng. Bot.* vol. viii. pl. 532. *Eng. Fl.* vol. i. p. 119. *Schlerochloa p.* Beauv. 149.

7. G. ri'gida. L. Sm. *Hard Sweet-grass.* Panicle lanceolate, close, 2-rowed, unilateral, with smooth stalks; spikelets of about 7 acute, scarcely-ribbed flowers.——*Root* fibrous: culms from three to eight inches high, extremely stiff and firm: flowers cylindrical, slightly keeled: the whole plant generally brownish. Annual: flowers in June: grows in dry gravelly places and on walls: not uncommon. *Eng. Bot.* vol. xx. pl. 1371. *Eng. Fl.* vol. i. p. 120. *Schlerochloa r.* Beauv. 150.

8. G. lolia'cea. Huds. *Dwarf Rigid Sweet-grass.* Spike rigid, usually simple, unilateral; spikelets linear, oblong, of 10 or 12 flowers; root fibrous.——*Culm* stiff and wiry, three or four inches high, very smooth, reddish brown: leaves linear, acute. Annual:

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flowers in June and July: grows in sandy maritime pastures: not common. *Triticum loliaceum.* Sm. *Eng. Bot.* vol. iv. pl. 221. *Eng. Fl.* vol. i. p. 1815. 151.

43. TRIO'DIA. Brown. HEATH-GRASS.

Panicle racemose. Spikelets ovate, compressed. Glumes 2, nearly equal, ovate, keeled, acute, awnless, containing several perfect flowers, which are hairy at the base, but destitute of web. Glumellas 2, unequal, ovate, stiff; the outer obscurely ribbed, rounded on the back, flat and expanded on the edges, deeply cleft at the summit, with an intermediate short awn or tooth; the inner smaller, fringed, cleft at the point. Filaments capillary; anthers protruded, pendulous. Germen oval, flat; styles short, distinct; stigma cylindrical, feathery. Caryopsis loose, depressed, convex on the outer, concave on the inner side.—Named from τρεις, three, and ὀδους, a tooth. 56.

1. **T. decum'bens.** L. Beauv. *Decumbent Heath-grass.* Panicle erect, close, with nearly simple branches; spikelets 4-flowered; glumes smooth.——*The* whole plant stiff, decumbent; culm from four inches to a foot long, smooth: panicle of a few large, purple spikelets: flowers with two dense tufts of shining bristles at the base. Perennial: flowers in July: grows in dry mountainous pastures, as well as on the sea-coasts: common. *Eng. Bot.* vol. xii. pl. 792. *Brit. Fl.* vol. i. p. 131. 152.

44. BRI'ZA. Linn. QUAKING-GRASS.

Panicle lax. Spikelets compressed, cordato-deltoid or broadly ovate. Glumes 2, nearly equal, obovate, slightly keeled, awnless, containing many 2-rowed, imbricated, perfect flowers. Glumellas 2, unequal, obtuse, awnless, the outer nearly orbicular, concave, contracted at the edges, the inner much smaller, obovate, inflected at the edges. Filaments capillary, longer than the corolla. Anthers oblong, pendulous; germen ovate; styles very short: stigmas feathery, long. Caryopsis nearly orbicular, flat, closely invested by the husks.—Named from βριθω, to droop. 57.

1. **B. me'dia.** L. *Common Quaking-grass.* Spikelets broadly ovate, 7-flowered; glumes shorter than the flowers.——*Culm* about a foot high: leaves deep green: panicle with very slender branches, and large purplish tremulous spikelets: inner glumella finely fringed, entire at the end. A very beautiful grass, but of little value to pasturage. Perennial: flowers in June and July: grows in dry pastures: common. *Eng. Bot.* vol. v. pl. 340. *Eng. Fl.* vol. i. p. 133. 153.

2. **B. mi'nor.** L. *Little Quaking-grass.* Spikelets triangular, 7-flowered; glumes longer than the flowers.——*Culm* about eight inches high: leaves pale-green: panicle with hair-like branches: inner glumella cleft at the end, and not fringed. Perennial: flowers in June and July: grows in cultivated fields in the south

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of England, and in Guernsey and Jersey: very rare. *Eng. Bot.* vol. xix. pl. 1316. *Eng. Fl.* vol. i. p. 133. 154.

45. DACTYLIS. Linn. COCK'S-FOOT-GRASS.

Panicle spreading, subsecund, with the ultimate branches very short and dense. Glumes 2, unequal, narrow, lanceolate, keeled, compressed, long-pointed, containing a spikelet of several flowers. Corolla of two unequal lanceolate, keeled, compressed glumellas; the outer more or less awned, flat and membranous at the edges; the inner narrower, 2-ribbed, folded acutely, cleft at the end. Filaments capillary, longer than the corolla; anthers cleft at both ends. Germen roundish; styles very short, distinct; stigmas feathery, spreading. Caryopsis oblong, loose, covered by the unaltered glumellas.—Named from *dactylus*, a finger. 58.

1. D. glomera'ta. L. *Cock's-foot-grass.* Panicle distinctly branched, unilateral; flowers in dense tufts; outer glumella somewhat awned, 4-ribbed, taper-pointed.——*Culm* erect, about two feet high: leaves linear, flat, dark-green, striated, harsh. A coarse grass, little relished by cattle, but said to improve greatly by culture. Perennial: flowers in June and July: grows by hedges, walls, and roads: common. *Eng. Bot.* vol. v. pl. 335. *Eng. Fl.* vol. i. p. 134. 155.

46. PO'A. Linn. MEADOW-GRASS.

Panicle lax. Spikelets ovate, with 3 or more flowers. Glumes 2, unequal, ovate, acute, keeled, awnless, frequently connected at the base by a web of white cottony filaments. Glumellas 2, unequal; the outer ovate, acute, keeled, compressed, entire, membranous at the edges; the inner narrower, with 2 nearly marginal ribs, inflected membranous edges, and a cleft summit. Filaments capillary, longer than the corolla; anthers pendulous, oblong; cleft at both ends. Germen ovate; styles very short; stigmas feathery, spreading. Caryopsis oblong, acute, loose, covered with the unaltered glumellas.—Name, ποα, grass, from παω, to feed. 59.

1. P. compres'sa. L. *Flat-stalked Meadow-grass.* Panicle somewhat unilateral, spreading; culm compressed; spikelets oblong; flowers connected by a web; outer glumella with 3 hairy nerves; root creeping.——*Culm* decumbent at the base, about a foot high: panicle with rough angular branches: spikelets from 3 to 8 flowers: outer glumella 5-ribbed, rough on the keel. Perennial: flowers in June, July, and August: grows in waste ground, and on walls: not uncommon.——*P. subcompressa.* Parn. Flowers connected by a web, outer glumella with 3 silky and 2 intermediate glabrous nerves. *P. Brit. Gr.* t. 37. *P. polynoda.* Parn. Flowers not webbed, outer glumella with 5 nerves, 3 hairy and 2 intermediate glabrous nerves, uppermost joint above the middle of the stem. These may pass as varieties, but have no pretensions to rank as species. *Eng. Bot.* vol. vi. pl. 365. *Eng. Fl.* vol. i. p. 121. 156.

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2. **P. alpi'na.** L. *Alpine Meadow-grass.* Panicle erect, spreading; spikelets ovate, 4- or 5-flowered; flowers somewhat incurved, hairy at the base.——*Root* fibrous: culms from four to eight inches high, erect: leaves linear, flat, bluntish, with a small point, rough at the edges: spikelets broad: glumes keeled, 3-ribbed: inner husk fringed at the ribs. Perennial: flowers in July and August: grows abundantly on the higher mountains of Scotland and Wales: common: very generally viviparous. *Eng. Bot.* vol. xiv. pl. 1003. *Eng. Fl.* vol. i. p. 122. 157.

3. **P. la'xa.** Hœnke. *Waved Meadow-grass.* Panicle slightly drooping, loosely spreading, waved; spikelets ovate, 3-flowered; outer glumella with 3 or 5 hairy nerves; flowers often connected by a web.——*Root* slightly creeping: the whole plant somewhat glaucous: leaves linear, roughish above: panicle with waved branches: spikelets broad: glumes keeled.——*P. minor.* Sand. Flowers webbed, outer glumella with 5 nerves. *P. laxa.* Hœnke. Flowers 5, outer glumellas with 3 hairy nerves. These do not seem to be even varieties, and are found growing together. Perennial: flowers in July: found by Mr. J. T. Mackay, on Ben Nevis; on Lochnagar and the Clova mountains by Mr. G. Don. *Eng. Bot.* pl. 1123. *Eng. Fl.* vol. i. p. 123. *P. laxa* and *P. minor.* Bab. Man. 389. 158.

4. **P. bulbo'sa.** L. *Bulbous Meadow-grass.* Panicle close, slightly waved; spikelets ovate, 4-flowered; flowers smoothish, connected by a web; leaves finely serrate; culm bulbous at the base.——*Culms* four to five inches high: panicle oblong: spikelets ovate: glumes rough on the keel: outer glumella hairy on the keel, with a continuation of the web, the inner fringed. Perennial: flowers in April and May: grows on the sandy sea-shore in the southern and eastern parts of England: rare. *Eng. Bot.* vol. xv. pl. 1071. *Eng. Fl.* vol. i. p. 123. 159.

5. **P. trivia'lis.** L. *Roughish Meadow-grass.* Panicle spreading; spikelets oblong, of about 3 acute, 5-ribbed flowers, connected by a web; culm and sheaths roughish; root fibrous.——*From* one to two feet high: leaves linear, acute: panicle large, with half-whorled, rough branches, and green flowers. A valuable grass for pasturage and hay. Perennial: flowers in June and July: grows in meadows and pastures: very common. *Eng. Bot.* vol. xv. pl. 1072. *Eng. Fl.* vol. i. p. 124. 160.

6. **P. praten'sis.** L. *Smooth Meadow-grass.* Panicle spreading: spikelets oblong, of about 4 acute, 5-ribbed flowers, connected by a web; culm and sheaths smooth; root creeping.——*About* a foot high: leaves linear, acute: panicle with half-whorled, smooth branches, and pale-green flowers. One of the most valuable pasture plants. Perennial: flowers in June and July: grows in meadows and pastures: abundant. *Eng. Bot.* vol. xv. pl. 1073. *Eng. Fl.* vol. i. p. 126. 161.

7. **P. an'nua.** L. *Annual Meadow-grass.* Panicle somewhat unilateral, with spreading or deflected branches; spikelets ovate, of about 5 somewhat distant, 5-ribbed flowers, destitute of a web; culm ascending, a little compressed, root fibrous.——*Culms* about six inches long, decumbent and rooting at the base: panicle pale-green. The whole plant tender and rather succulent. An-

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nual: flowers the whole year round: grows by roads, and wherever there is loose earth: abundant. *Eng. Bot.* vol. xvi. p. 1141. *Eng. Fl.* vol. i. p. 126. 162.

8. **P. nemora'lis.** L. *Wood Meadow-grass.* Panicle spreading, with hair-like branches; spikelets lanceolate, of about 3 5-ribbed, acute flowers, silky on the keel and lateral ribs, and hairy at the base without a web.——*The* whole plant slender and delicate: culms erect, about two feet high: leaves linear, flat, tapering to a fine point, roughish: panicle erect. Perennial: flowers in June and July: grows in woods. *Eng. Bot.* vol. xviii. pl. 1265. *Eng. Fl.* vol. i. p. 130. Such is its ordinary appearance in woods or other shady places. But it varies in open ground, and especially in mountainous situations, presenting so many minutely characterized forms that the ingenuity of species-makers has been abundantly exercised by it. It is impossible within our narrow limits to give any intelligible account of all the circumstances that relate to these vagaries; but the following notes may be of some use. 163.

P. Parnel'lii. Bab. and *P. Montana,* Parn. Panicle erect, rather close and oblong in the former, close and slender in the latter; spikelets of 2 or 3 free florets, outer pale with 5 nerves, the dorsal and marginal hairy: upper sheath not longer than its leaf; upper joint at about the middle of the stem. Upper parts of Teesdale and Ben Lawers.

P. cœ'sia. Sm. Panicle erect, slender; spikelets ovate, of 3 or 4 acute free flowers; outer glumella with 5 nerves, the dorsal and marginal hairy; upper sheath not longer than its leaf; uppermost joint near the base of the stem. Six to twelve inches high. May be divided thus: *a. cæsia.* Spikelets of 4 or 5 flowers, panicle rather spreading. *P. cæsia.* Sm. *B. glauca.* Spikelets of 2 or 3 flowers, panicle rather close. *P. glauca.* Sm. Ben Lawers, Clova, Ben Nevis.

P. Balfou'rii. Parn. Panicle erect, rather spreading, spikelets ovate, with 3 or 4 webbed flowers, outer pale with 5 nerves, the dorsal and marginal hairy; upper sheath about as long as its leaf; uppermost joint at about one-third up the stem. *Root* creeping. Culms from three to fifteen inches high. Ingleborough, Cheviot, mountains of Perthshire and Forfarshire. *Eng. Bot.* vol. xxiv. pl. 1720. *Eng. Fl.* vol. i. p. 128. Hook. and Arn. p. 539.

47. FES'TU'CA. Linn. FESCUE.

Panicle lax. Spikelets oblong, more or less compressed. Glumes 2, very unequal, lanceolate, pointed, many 2-rowed, more or less awned, perfect flowers. Glumellas 2, unequal; the outer commonly nearly cylindrical, entire, pointed or awned, keeled, more or less ribbed, a little inflected at the edges; the inner narrower, elliptical, 2-ribbed, cleft or abrupt, with membranous margins, folded in at the rib. Filaments capillary, shorter than the husks; anther linear, pendulous, notched at both ends. Germen round; styles short, distant; stigmas feathery; caryopsis oblong, acute, loose, enveloped in the unaltered glumellas.—Name of uncertain origin. 60.

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1. **F. gigante'a.** L. Vill. *Great Fescue.* Panicle branched, drooping, spikelets lanceolate, compressed; flowers shorter than their awn; leaves narrow, lanceolate, ribbed.——*Culms* three or four feet high, erect, smooth, striated: leaves with rough edges and ribs: panicle large, with spikelets of from three to six flowers. Perennial: flowers in July and August: grows in woods and hedges: not uncommon. *Bromus giganteus.* Linn. *Eng. Bot.* vol. xxvi. pl. 1820. *Eng. Fl.* vol. i. p. 144. 164.

2. **F. ela'tior.** L. *Tall Fescue.* Panicle somewhat drooping, much branched, spreading in all directions; spikelets ovate, lanceolate, with numerous cylindrical, somewhat awned flowers; root creeping. ——*Culms* about four feet high, striated, smooth: leaves narrow lanceolate, smooth, rough at the edges: scale 4-cleft. Perennial: flowers in June and July: grows in moist meadows and by rivers: not uncommon. *Eng. Bot.* vol. xxiii. pl. 1593. *Eng. Fl.* vol. i. p. 148. 165.

3. **F. praten'sis.** Huds. *Meadow Fescue.* Panicle nearly erect, branched, close, inclined to one side; spikelets lanceolate, compressed with 8 or 9 cylindrical flowers: root fibrous.——*Culms* about two feet high, round, smooth: leaves linear, pointed, striated, rough at the edges: panicle with compressed, rough stalks: scale 4-cleft. Probably this and *F. elatior* are the same species, as they seem to pass into each other, and individuals are often seen that might be referred to either. Perennial: flowers in June and July: grows in moist pastures and by road-sides: common. *Eng. Bot.* vol. xxiii. pl. 1592. *Eng. Fl.* vol. i. p. 148. 166.

4. **F. lolia'cea.** Sm. *Spiked Fescue.* Spike 2-rowed, drooping; spikelets nearly sessile, narrow-oblong; flowers cylindrical, awnless, pointed with 5 or 6 ribs at the top.——*Culms* two feet high, round, smooth: leaves linear, flat, smooth: spike with a wavy, angular common stalk: spikelets with 10 or 12 cylindrical flowers. Perennial: flowers in June and July: grows in rich moist pastures: not uncommon. *Eng. Bot.* vol. xxvi. pl. 181. *Eng. Fl.* vol. i. p. 147. 167.

5. **F. sylva'tica.** Vill. *Wood Fescue.* Panicle repeatedly compound, spreading, erect; spikelets of from 2 to 5 cylindrical, keeled, pointed flowers; inner glumella folded in the middle, outer with 3 prominent ribs, the dorsal rib serrate.——*Culms* two or three feet high, round, smooth: leaves lanceolate, tapering, striated, ribbed, rough at the edges: panicle with slender, angular branches: spikelet small, erect: outer glume linear, inner subulate. Perennial: flowers in July: grows in mountainous woods: not uncommon. *F. calamaria.* Sm. *Eng. Bot.* vol. xiv. pl. 1005. *Eng. Fl.* vol. i. p. 146. 168.

6. **F. ovi'na.** L. *Sheep's Fescue.* Panicle unilateral, rather close: spikelets of 4 or 5 flowers with short awns; culms somewhat square; leaves involute, bristle-shaped.——*Leaves* short, tufted; culms about eight inches high, the whole plant glaucous, frequently tinged with red. This grass forms excellent pasturage for sheep. Perennial: flowers in June and July: grows in dry pastures abundantly. *Eng. Bot.* vol. ix. pl. 585. *Eng. Fl.* vol. i. p. 139.—A variety which is viviparous grows plentifully on the higher mountains. *F. vivipara.* *Eng. Bot.* vol. xiv. pl. 1355. *Eng. Fl.* vol. i. p. 140. 169.

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7. **F. durius'cula.** L. *Hard Fescue.* Panicle unilateral, spreading; spikelets oblong, of about 6 flowers with short awns; stem-leaves nearly flat, at length involute; root-leaves involute, bristle-shaped. ——*Culms* from one to two feet high: leaves roughish on the keel and edges. Perennial: flowers in June and July: grows in pastures and waste ground: common. *Eng. Bot.* vol. vii. pl. 470. *Eng. Fl.* vol. i. p. 141. Some distinguish specifically from this *F. rubra*, Linn., which, however, although generally larger, and more glaucous, or often tinged with red, differs in no other essential respect than in having the root more creeping:—It attains its larger size in sand on the sea-shore, but grows also in dry pastures, and graduates into the common form. Panicle unilateral, spreading; spikelets oblong, of about 6 flowers, with short awns; leaves downy above, more or less involute; root extensively creeping.——Perennial: flowers in June and July: grows in dry pastures: common. *Eng. Bot.* vol. xxix. pl. 2056. *Eng. Fl.* vol. i. p. 142. 170.

8. **F. uniglu'mis.** Soland. *Single-glumed Fescue.* Panicle erect, nearly simple; flowers tapering; compressed, awned; one of the glumes very minute.——*Culms* from six to fourteen inches high, erect: leaves somewhat involute, smooth on the back, furrowed and hairy above: panicle rather close, with compressed, rough-edged stalks. Annual: flowers in June: grows on the sandy shores of the South of England: rare. *Eng. Bot.* vol. xx. pl. 1430. *Eng. Fl.* vol. i. p. 144. 171.

9. **F. bromoi'des.** L. *Barren Fescue.* Panicle unilateral, nearly erect, simple; spikelets oblong, smooth; flowers shorter than their awns; leaves tapering, shorter than their sheath.——*Culms* from four to ten inches high; panicle of a few long-stalked spikelets: outer glume extremely narrow, acute. Annual: flowers in June: grows on walls and sandy ground: common. *Eng. Bot.* vol. xx. pl. 1411. *Eng. Fl.* vol. i. p. 143. There may be distinguished a variety having the panicle drooping, elongated, rather close, flowers tapering, shorter than their awns, rough at the top; leaves subulate.——*About* sixteen inches high, with a panicle five or six inches long. Annual: flowers in June and July: grows on walls and dry sandy ground: frequent in England; not rare in Scotland. It is *F. Myurus*, of Smith. *Eng. Bot.* vol. xx. pl. 1412. *Eng. Fl.* vol. i. p. 143. 172.

48. CYNOSU'RUS. Linn. DOG'S-TAIL-GRASS.

Panicle spicate, unilateral. Spikelets in pairs: the outer consisting of numerous 2-rowed, lanceolate, pointed glumes, without corolla or other part of fructification, and resembling a pectinated bract; the inner of several flowers. Glumes 2, equal, lanceolate, 1-ribbed, concave, keeled, taper-pointed, awned, containing 2 or 3 perfect flowers, occasionally with rudiments of more. Glumellas 2, unequal, lanceolate; the outer concave, keeled, with a straight awn at the summit; the inner 2-ribbed, inflected at the edges, cleft at the point, awnless. Scales 2, acute. Filaments capillary, shorter than the corolla; anthers linear, cleft at both ends. Germen elliptical; style very short, distinct; stigmas long, feathery. Caryopsis loose, oblong, invested by the unaltered glumellas.—Named from κυων, a dog, and οὐρα, a tail. 61.

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1. **C. crista'tus.** L. *Crested Dog's-tail-grass.* Spike simple, linear; neutral spikelet awnless.——*Culms* about a foot high; stiff, smooth: spike erect, linear, with a waved rough stalk. This grass is excellently adapted for making straw-plait, and has been employed for that purpose. Cattle or even sheep hardly ever eat it. Mr. Babington, however, calls it "a valuable agricultural grass." Perennial: flowers in July: grows in meadows and pastures abundantly. *Eng. Bot.* vol. v. pl. 316. *Eng. Fl.* vol. i. p. 137. 173.

2. **C. echina'tus.** L. *Rough Dog's-tail-grass.* Spike compound, ovate; neutral spikelet awned.——*Culms* from ten to twenty inches high: spike dense, bristly with the long rough awns of the perfect flowers. Perennial: flowers in July: grows on sandy ground in the south of England and Jersey: rare. *Eng. Bot.* vol. xix. pl. 1333. *Eng. Fl.* vol. i. p. 138. 174.

49. BRO'MUS. Linn. BROME-GRASS.

Panicle generally narrow. Spikelets more or less compressed. Glumes 2, unequal, ovate or lanceolate, acute, compressed, awnless, containing numerous, 2-rowed, awned, perfect flowers. Glumes 2, unequal, the outer elliptical, ribbed, longer than the calyx, cleft at the top, awned at the back just below the summit; awn tapering, generally as long as the glumella; inner glumella nearly as long as the outer, but much narrower, 2-ribbed, with membranous inflexed margins and a fringe on the ribs. A deeply divided scale, or 2 distinct undivided ones. Filaments capillary, shorter than the corolla; anthers short, pendulous, notched at both ends. Germen ovate; styles distant, lateral; stigmas densely feathered. Caryopsis oblong, depressed, downy at the summit, united to the inner glumella. —Named from βρομα, food. 62.

1. **B. secali'nus.** L. *Smooth Rye Brome-grass.* Panicle spreading, little branched; spikelets ovate; of about 10, distinct, subcylindrical, smooth flowers; awns waved, shorter than the glumella; leaves slightly hairy.——*Culms* from two to three feet high: lower branches of the panicle whorled and slightly subdivided, upper simple. Annual: flowers in July and August: grows in corn-fields: not common. *Eng. Bot.* vol. xvii. pl. 1171. *Eng. Fl.* vol. i. p. 152. 175.

2. **B. veluti'nus.** Sm. *Downy Rye Brome-grass.* Panicle spreading, nearly simple; spikelets oblong, of from 10 to 15 crowded, elliptical, downy flowers; awns as long as the glumellas; leaves slightly hairy.——*Culms* about two feet high: panicle with almost entirely simple branches. Considered by recent botanists as a variety of the last. Annual: flowers in July: grows in corn-fields, rare. Found near Edinburgh by Sir J. E. Smith. *Eng. Bot.* vol. xxvii. pl. 1884. *Eng. Fl.* vol. i. p. 152. 176.

3. **B. commuta'tus.** Schrad. *Tumid Brome-grass.* "Panicle loose, slightly drooping in fruit, lower peduncles often elongated and branched, simple peduncles equalling or exceeding in length the oblong, lanceolate, glabrous spikelets; florets loosely imbricated, when in fruit the glumellas only slightly overlapping at their edges near the base; awn straight, about as long as the floret; leaves and their

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sheaths hairy. Watson, in *Lond. Jour. of Bot.* vol. i. p. 48.——*Root* fibrous: culms from one to two feet high: spikelets dull-green tinged with brown. With more numerous spikelets, it is *B. multiflorus.* Parn. Annual: grows in fields and by roads: common: flowers in June and July. Hook. and Arn. *Brit. Fl.* 548. *Serrafalcus commutatus.* Bab. *Man.* 398. 177.

4. **B. mol'lis.** L. *Soft Brome-grass.* Panicle erect, close, compound; spikelets ovate, slightly compressed, downy; flowers imbricated, depressed, ribbed; awns as long as the glumella; leaves and sheaths very soft and downy.——*From* one to two feet high: spikelets of from 5 to 10 flowers. Biennial: flowers in June and July: grows in fields, pastures, and by way-sides, abundant. A coarse soft grass, little relished by cattle. *Eng. Bot.* vol. xv. pl. 1078. *Eng. Fl.* vol. i. p. 153. 178.

5. **B. racemo'sus.** L. *Smooth Brome-grass.* Panicle nearly erect, spreading, slightly branched; spikelets between ovate and oblong, smooth; flowers imbricated, depressed, ribbed; awns as long as the glumella; leaves somewhat downy.——*From* one to two feet high: spikelets of from 5 to 10 flowers. Biennial: flowers in June: grows in meadows and pastures. Probably a variety of the preceding. *Eng. Bot.* vol. xv. pl. 1054. *Eng. Fl.* vol. i. p. 154. 179.

6. **B. squarro'sus.** L. *Corn Brome-grass.* Panicle drooping, scarcely branched; spikelets between ovate and oblong; flowers imbricated, depressed, ribbed; awns spreading; leaves downy.—— *Culm* a foot high, smooth, striated: spikelets few, large, tumid, with from 8 to 15 flowers. Annual: flowers in July: grows in corn-fields in England: rare, and probably introduced among corn. *Eng. Bot.* vol. xxvii. pl. 1885. *Eng. Fl.* vol. i. p. 155. 180.

7. **B. arven'sis.** L. *Taper Field Brome-grass.* Panicle drooping, spreading, compound, with half-whorled branches; spikelets lanceolate, acute; flowers about 8, imbricated, smoothish; about as long as the straight awn; leaves hairy.——*Culm* about three feet high, erect, smooth: leaves rough on the edges; panicle very large, with harsh, spreading branches. Annual: flowers in July: grows in corn-fields: rare, and probably introduced. *Eng. Bot.* vol. xxviii. pl. 1984. *Eng. Fl.* vol. i. p. 156. 181.

8. **B. erec'tus.** Huds. *Upright Perennial Brome-grass.* Panicle erect, slightly branched; spikelets narrow lanceolate, compressed; flowers about 8, loosely imbricated, lanceolate, compressed; awn straight, shorter than the glumellas; root-leaves very narrow, fringed with scattered hairs.——*Culms* from two to three feet high. Perennial: flowers in July: grows in fields and by road-sides: not common. *Eng. Bot.* vol. vi. pl. 471. *Eng. Fl.* vol. i. p. 157. 182.

9. **B. as'per.** L. *Hairy Wood Brome-grass.* Panicle branched, drooping; spikelets narrow-oblong; flowers about 8, lanceolate, compressed, downy; awns shorter than the husks; leaves uniform, the lower ones hairy.——*Culm* erect, from four to six feet high: leaves lanceolate, pointed, ribbed, fringed at the edges. Annual: flowers in July and August: grows in woods and hedges: common. *Eng. Bot.* vol. xvii. pl. 1172. *Eng. Fl.* vol. i. p. 158. 183.

10. **B. ste'rilis.** L. *Barren Brome-grass.* Panicle nearly simple, drooping; spikelets narrow, lanceolate; flowers about 7, lanceolate,

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compressed, furrowed; awns longer than the glumellas; leaves downy. ——*Culms* about two feet high: leaves linear, soft and downy, fringed at the edges. Annual: flowers in June and July: grows in hedges and by road-sides: common. *Eng. Bot.* vol. xv. pl. 1030. *Eng. Fl.* vol. i. p. 159. 184.

11. **B. dian'drus.** Curt. *Upright Annual Brome-grass.* Panicle erect, somewhat spreading; flowers lanceolate, with only 2 stamens. ——*Culms* about a foot high, erect, stiff, slender, smooth. Annual: flowers in June and July: grows in sandy and gravelly soil: rare. *Eng. Bot.* vol. xiv. pl. 1006. *Eng. Fl.* vol. i. p. 160. 185.

50. AVENA. Linn. OAT.

Panicle lax. Spikelets compressed, with 2 or 3 perfect, and sometimes 1 or 2 rudimentary neuter flowers. Glumes 2, somewhat unequal, broadly lanceolate, thin, awnless, containing a loose spikelet of several flowers. Glumellas 2, unequal; the outer ovate, involute, pointed at both ends, deeply cleft at the top, and bearing from the back a spirally-twisted awn. Scales 2, lanceolate. Filaments shorter than the corolla; anthers rather short. Germen obtuse; styles short; stigmas densely feathered. Caryopsis oblong, sometimes downy, enveloped in the hardened outer glumella, which retains its awn.—Name *Avena*, of the Romans. 63.

1. **A. fa'tua.** L. *Wild Oat.* Panicle erect, spikelets pendulous; flowers about 3, shorter than the glumes, bristly at the base, all awned.——*Culms* three feet high, erect, round, smooth: leaves flat, linear, rough, sometimes hairy: panicle erect and spreading, with half-whorled, rough branches. The twisted awn makes an excellent hygrometer, and Smith says the flowers are used by rustic anglers instead of artificial flies. Annual: flowers in June and July: grows among oats and barley: common. *Eng. Bot.* vol. xxxi. pl. 2221. *Eng. Fl.* vol. i. p. 163. 186.

2. **A. strigo'sa.** Schreb. *Bristle-pointed Oat.* Panicle oblong, inclined to one side; spikelets of 2 flowers; outer glumella tipped with 2 straight bristles.——*Culms* three feet high: leaves rough: glumes as long as the spikelet: dorsal twisted awn twice the length of the flower. Resembles the common cultivated oat, but is easily known by its more slender spikelets, and the 2 long bristles which terminate the outer glumes. Annual: flowers in June and July: grows in corn-fields: common. *Eng. Bot.* vol. xviii. pl. 1266. *Eng. Fl.* vol. i. p. 164. 187.

3. **A. pubes'cens.** L. *Downy Oat-grass.* Panicle erect, nearly simple; flowers about 3, longer than the glume, with a bearded stalk; leaves flat, downy; root somewhat creeping.——*Culms* about two feet high, smooth: leaves flat, obtuse, covered with soft hairs: flowers generally 3, one of them imperfect: awn from the middle of the glumella. Perennial: flowers in July: grows in pastures: not common. *Eng. Bot.* vol. xxiii. pl. 1640. *Eng. Fl.* vol. i. p. 164. 188.

4. **A. praten'sis.** L. *Narrow-leaved Oat-grass.* Panicle erect, with very short simple branches; flowers about 5, longer than the glumes, with a hairy stalk; leaves involute, finely serrate, with smooth sheaths.——*Culm* about a foot high, erect, stiff; leaves

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mostly radical: panicle erect, simple, with some of the upper spikelets sessile. Perennial: flowers in July: grows in dry pastures: common. *Eng. Bot.* vol. xvii. pl. 1204. *Eng. Fl.* vol. i. p. 165. A variety with the lower leaves flat and elongated, the sheaths flattish, their keel slightly scabrous, is distinguished by Dr. Parnell by the name of *longifolia*, and said to occur in moist woods near the sea, in the neighbourhood of Edinburgh. Parn. *Gr.* pl. 52. Another, *A. alpina*, of Smith, has the panicle erect, slightly branched; flowers about 5, longer than the glumes, with their stalk bearded under each; leaves flat, minutely serrate; root fibrous. Two feet high, erect: leaves linear, rough on the edges and ribs: panicle erect, with rough branches. Perennial: flowers in July; found by Mr. G. Don, on the rocky summits of the Clova mountains in Angus-shire. *Eng. Bot. Suppl.* pl. 2684. *Eng. Fl.* vol. i. p. 165. 189.

5. **A. planicul'mis.** Schrad. *Flat-stemmed Oat-grass.* Panicle erect, branched, spreading; flowers from 5 to 7, much longer than the calyx; leaves broadly linear, rough, minutely serrate, their sheaths flat and sharply keeled; lower part of the straw 2-edged. ——*Discovered* by Mr. Stuart Murray, in Glen Sannox, Arran. Probably a variety of *A. pratensis*. Perennial: flowers in July. *Brit. Fl.* 4th ed. p. 49. 190.

6. **A. flaves'cens.** L. *Yellow Oat-grass.* Panicle erect, spreading, much branched; flowers about 3, longer than the glumes; outer glumella with two terminal bristles; leaves flat, a little downy; root somewhat creeping.——*Culms* about eighteen inches high: panicle of numerous yellowish, shining spikelets. *Trisetum flavescens.* Beauv. and Babington, p. 92. The smallest of our species. Perennial: flowers in July: grows in dry pastures: common. *Eng. Bot.* vol. xiv. pl. 952. *Eng. Fl.* vol. i. p. 166. 191.

51. PHRAG'MITES. Trin. REED.

Panicle loose. Spikelets with 3 or 4 distant perfect flowers, and a barren flower at the base, all surrounded by long hairs attached to the stalk of the spikelet. Glumes 2, unequal, membranous, shorter than the flowers. Filaments filiform; anthers cleft at both ends. Germen oblong; style short; stigmas feathery. Caryopsis oblong, loose, but enveloped in the glumellas. —Name φραγμιτης, an inclosure. It is to be regretted that the more correct and classical name of *Arundo* was not retained. 64.

1. **P. com'munis.** Trin. *Common Reed.* Panicle diffuse; spikelets about 5-flowered; flowers longer than the glumes; leaves broad, tapering, acuminate.——*The* largest of our grasses, the culms rising to the height of from six to nine feet, the root creeping, the culm stout, smooth: leaves rough on the edges, many-ribbed: panicle very large, with semiverticillate branches; flowers brownish-purple, with large tufts of silky hairs. Perennial: flowers in July: grows in ditches, marshes, lakes, and rivers: not in general very common, but often forming large thickets: favourite haunts of the Coot, the Water-hen, the Reed Bunting, the Reed Warbler, and along the Thames of the so-called Bearded Titmouse. It is used for various purposes, and especially for thatching. *Arundo Phragmites.*

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Linn. *Eng. Bot.* vol. vi. pl. 401. *Eng. Fl.* vol. i. p. 169. *Phragmites communis.* Hook. and Arn. p. 553. Bab. *Man.* p. 383. 192.

52. BRACHYPO'DIUM. Beauv. BROME-WHEAT.

Raceme simple. Spikelets transverse to the rachis, alternate, remote, subcylindrical, many-flowered. Glumes 2, opposite, unequal. Glumellas 2, rounded on the back, the outer 7-ribbed, terminated by an awn or bristle, the inner retuse, strongly ciliated on the sides above. Filaments capillary; anthers forked. Germen oval; stigmas plumose. Caryopsis oblong, loose.—Name from βραχυς, short, and πους, a foot. More allied to *Bromus* than to *Triticum*, between which it is represented as intermediate. Hence, perhaps, called False Brome-grass, as one might call a hyena a false dog. 65.

1. B. sylva'ticum. Sm. Beauv. *Slender Brome-wheat.* Spike distichous, drooping; spikelets nearly cylindrical, numerous, awned, the awns of the upper flowers longer than the glumella; leaves flat, tapering, flaccid; root fibrous. *Koch.*——*Culms* about two feet high, round, very slender, smoothish: leaves more or less hairy: glumes lanceolate, acuminate: outer glumella linear, lanceolate, scabrous or hairy, inner truncate, its two ribs pectinato-ciliate. Perennial: flowers in July: grows in woods, thickets, and hedges: not common. *Festuca sylvatica.* Sm. *Eng. Bot.* vol. xi. pl. 729. *Eng. Fl.* vol. i. p. 149. 193.

2. B. pinna'tum. L. Beauv. *Heath Brome-wheat.* Spike distichous, erect, or slightly drooping; spikelets numerous, awned, the awns shorter than the glumella; leaves flat, linear or linear-lanceolate, stiffish: root creeping. *Koch.*——*Culms* from one to two feet high: outer glumella scabrous or hairy. A variety with involute leaves has been found near Bath. Perennial: flowers in July: grows in open fields, and on heaths, in many counties in England. *Festuca pinnata. Eng. Bot.* vol. xi. pl. 730. *Bromus pinnatus. Eng. Fl.* vol. i. pl. 150. 194.

53. LO'LIUM. Linn. DARNEL. RYE-GRASS.

Spike with solitary, approximated, compressed spikelets, placed edgewise on the elongated common receptacle, which is alternately channelled or excavated to receive them. Glumes solitary, lanceolate, permanent. Glumellas 2, unequal, opposite to the glume; the outer lanceolate, somewhat keeled, acute, cleft at the point, the keel terminated by an awn; the inner elliptical, smaller, with the edges inflected. Two ovate scales. Filaments capillary, shorter than the corolla; anthers oblong, cleft at each end. Germen obtuse; styles very short; stigmas feathery. Caryopsis oblong, convex on one side, flat and furrowed on the other.—Name, *lolium*, of the Romans. 66.

1. L. peren'ne. L. *Common Rye-grass. Red Darnel.* Spikelets longer than the glume; flowers lanceolate, awnless, or slightly awned. —— *Root* fibrous: stems several, about a foot high, round, smooth, stiff, with purplish tumid joints: leaves linear, pointed, smooth, striated: spike erect, purplish. This plant is subject to considerable variation, as it grows in rich or poor soil, being from six inches high to nearly three feet, and having the spike with few

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spikelets, or with a great number closely crowded together, or even having several spikes agglomerated. It is well known to farmers, being extensively cultivated. Perennial: flowers in June and July: grows in meadows and pastures, by road-sides, &c.: common. *Eng. Bot.* vol. v. pl. 315. *Eng. Fl.* vol. i. p. 173. 195.

2. L. multiflo'rum. Lam. *Bearded Rye-grass.* Spikelets of numerous flowers, much longer than the glume; flowers lanceolate, awned.——*Similar* to the last, greener and more juicy in cultivation, with long-spreading leaf-shoots. The Italian Rye-grass of farmers and others. Probably a variety of the last. Perennial, biennial, or annual. Flowers in June and July. 196.

3. L. temulen'tum. L. *Bearded Darnel.* Glumella with a long awn; spikelets shorter than the glume; flowers elliptical; culm rough.——*Culms* two or three feet high, round, rough at the upper part: leaves rough on the upper side: spike from four to six inches long, with a rough stalk. Annual: flowers in July: grows in fields among wheat or barley. The seeds of this plant are said to produce intoxication and fatal convulsions. *Eng. Bot.* vol. xvi. pl. 1124. *Eng. Fl.* vol. i. p. 174. When the awn is imperfect, it is the *L. arvense, White Darnel,* of some botanists. *Eng. Bot.* vol. xvi. pl. 1125. *Eng. Fl.* vol. i. p. 175. 197.

54. LEP'TURUS. Brown. HARD-GRASS.

Spike cylindrical, solitary, ultimately separating at the joints of the rachis. Spikelets solitary, placed edgewise in alternate excavations of the rachis, each of 2 flowers, of which one only is perfect. Glumes 2, parallel, lanceolate, opposite to the excavation. Glumellas of the perfect flower lanceolate, membranous, nearly equal, inflected at the edges. 2 acute scales. Filaments threadlike; anthers oblong, cleft at both ends. Germen oblong, obtuse; styles short; stigmas feathery, spreading. Caryopsis oblong, shut up in the cavity of each joint of the rachis by the closed glumellas, and falling off along with them. —Name from λεπτος, slender, and οὐρα, tail. 67.

1. L. incurva'tus. Trin. *Sea Hard-grass.* Spike cylindrical, slender; glumes united below; glumellas awnless.——*Culms* numerous, from three to five inches long, spreading, round, smooth, jointed, leafy: leaves short, firm: spike very slender, hardly distinguishable from the culm. Annual: flowers in July and August: grows on the sea-shore: rare. *Eng. Bot.* vol. xi. pl. 760. *Eng. Fl.* vol. i. p. 176. 198.

55. E'LYMUS. Linn. LYME-GRASS.

Spikelets in pairs from each joint of the rachis, which is alternately excavated and toothed on each side. Glumes to each spikelet 2, unequal, broadly lanceolate, the outer largest, keeled, and pointed or awned, the inner cleft, inflected at the edges, with a rib on each side. 2 lanceolate scales. Filaments capillary, very short; anthers linear, notched at both ends. Germen turbinate; stigmas feathery, spreading. Caryopsis linear, channelled on the upper side, very hairy at the summit. —Name ἐλυμος, of the Greeks. 68.

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1. **E. arena'rius.** L. *Upright Sea Lyme-grass.* Spike erect, close; glumes lanceolate, as long as the spikelets; leaves stiff, with a spinous point.——*Root* creeping: culms three or four feet high, erect, firm, round, striated, leafy: leaves hard and stiff, involute with a pungent point: spike from six to twelve inches long. It has some resemblance to *Ammophila arenaria*, but is much stouter. Perennial: flowers in July: grows in sand on the sea-shore, in England, Scotland, and Ireland; but not very common. *Eng. Bot.* vol. xxiv. pl. 1672. *Eng. Fl.* vol. i. p. 177. 199.

2. **E. genicula'tus.** Curt. *Pendulous Sea Lyme-grass.* Spike bent downwards, lax; rachis winged; glumes subulate, longer than the spikelets; leaves stiff, with a spinous point.——*Root* fibrous: culms taller but more slender than in the last: spike nearly two feet long. Perennial: flowers in July: grows in marshes near the coast: very rare. Salt-marsh near Gravesend. *Eng. Bot.* vol. xxiii. pl. 1586. *Eng. Fl.* vol. i. p. 178. 200.

56. HOR'DEUM. Linn. BARLEY.

Spikelets in threes from each joint of the rachis, which is toothed alternately on each side, the intermediate spaces flattened and bordered. Flowers not all perfect. Glumes 2 to each flower, pointed or awned, parallel, erect. Glumellas 2, the outer ovate, angular, terminated by a long, straight, rough awn; the inner smaller, lanceolate, flat, pointed, inflected at the edges. 2 acute scales. Filaments capillary, short; anthers notched at both ends. Germen turbinate; styles very short; stigmas feathery, reflexed. Caryopsis oblong, pointed at both ends, channelled on the upper side, firmly united to the glumellas.—Name used by the Romans. 69.

1. **H. Europæ'um.** L. Huds. *European Barley.* Spike erect, close; spikelets of about 2 flowers, rough, awned; glumes awned, as long as the spikelet; leaves flat, pliant.——*Root* fibrous: culm erect, two feet high, round, smooth, leafy: leaves lanceolate, ribbed, flat, acute, rough: spike two or three inches long, erect, close, green: spikelets three at each notch. Perennial: flowers in June: grows in woods and thickets in the northern parts of England. *Elymus arenarius.* Linn. *Elymus Europæus.* *Eng. Bot.* vol. xix. pl. 1317. *Eng. Fl.* vol. i. p. 178. 201.

2. **H. muri'num.** L. *Wall Barley. Way Bennet.* Lateral flowers with stamens only; glumes of the intermediate flower lanceolate, fringed.——*Root* fibrous: stems from twelve to eighteen inches high, spreading at the base, then erect, smooth, leafy: leaves linear, flat, roughish: two lateral flowers stalked: central flower perfect and large. Annual: flowers in the summer months: grows by walls and road-sides: common. *Eng. Bot.* vol. xxviii. pl. 1971. *Eng. Fl.* vol. i. p. 179. 202.

3. **H. praten'se.** Huds. *Meadow Barley.* Lateral flowers destitute of germen: all the glumes bristle-shaped and scabrous.——*Root* fibrous: stems about two feet high, smooth, and leafless at the top: leaves narrow, roughish: lateral flowers stalked: central flower perfect and largest. Perennial: flowers in the summer months:

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grows in meadows and pastures: frequent in England, very rare in Scotland. *Eng. Bot.* vol. vi. pl. 409. *Eng. Fl.* vol. i. p. 180. **203.**

4. **H. mari'timum.** With. *Sea Barley. Squirrel-tail-grass.* Lateral flowers with stamens only, their awns shorter; their inner glume semi-ovate.——*Resembles H. murinum,* but is smaller and stiffer: the awns are stiff and strongly barbed, so as to be extremely troublesome to horses when mixed with hay. Annual: flowers in the summer months: grows in pastures and sandy ground near the sea: common in England: very rare in Scotland. *Eng. Bot.* vol. xvii. pl. 1205. *Eng. Fl.* vol. i. p. 181. **204.**

57. TRITICUM, Linn. WHEAT.

Spikelets solitary at each joint of the rachis, transverse, compressed, many-flowered. Glumes 2, oblong, ribbed, nearly equal, opposite, with or without terminal awns. Flowers 3 or more in a spikelet, applied laterally to the rachis; outer glumella oblong, furrowed, pointed or awned; inner flat, awnless, inflected at each end. 2 acute scales. Filaments capillary; anthers linear, forked at both ends. Germen turbinate; styles short, distinct; stigmas feathery, reflexed. Caryopsis oblong, blunt at both ends, convex on one side, channelled on the other. —Named from *tritum,* beaten or thrashed. **70.**

1. **T. jun'ceum.** L. *Sea Wheat-grass. Rush Wheat.* Glumes obtuse, many-ribbed; flowers of each spikelet about 5, awnless; leaves involute with a thorny point.——*Root* creeping: culm about a foot and a half high, simple, ascending, round, leafy, smooth below, striated above: leaves stiff, furrowed on the upper side, smooth on the back: spike from four to six inches long: spikelets rather distant, ovate, of five or six awnless flowers: the receptacle separates at the joints. Perennial: flowers in July: grows in sand on the sea-coast, along with *Ammophila arenaria:* common. Its long roots tend to fix the sand. *Eng. Bot.* vol. xii. pl. 314. *Eng. Fl.* vol. i. p. 182. **205.**

2. **T. re'pens.** L. *Creeping Wheat-grass. Couch-grass.* Glumes pointed or awned, lanceolate, many-ribbed; flowers of each spikelet about 5, sharp-pointed or awned; leaves flat; root creeping.——*Root* long, creeping: culms about two feet high, erect, leafy: leaves linear, flat, spreading, their margins and upper surface rough: spike about three inches long, erect, its stalk somewhat hairy: a variety of a pale bluish-green or glaucous colour occurs in maritime places. Perennial: flowers in June and July: grows in fields, by hedges and in waste places: common. *Eng. Bot.* vol. xiii. pl. 909. *Eng. Fl.* vol. i. p. 183. **206.**

3. **T. cani'num.** Huds. *Fibrous-rooted Wheat-grass. Dog's Wheat.* Glumes somewhat awned, lanceolate, with 3 or 5 ribs; flowers of each spikelet 4, awned; leaves flat; root fibrous.——*Root* of numerous downy fibres: culms about two feet high, erect, leafy: leaves linear, flat, nearly erect, rough on both sides: spike three or four inches long, a little inclining. Perennial: flowers in June and July: grows in woods and hedges: common. *Eng. Bot.* vol. xx. pl. 1372. *Eng. Fl.* vol. i. p. 184. **207.**

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4. T. crista'tum. Schreb. *Crested Wheat-grass.* Glumes elliptical, awned, keeled, indistinctly ribbed; flowers awned; spikelets of about 4 crowded flowers; culms simple.——*Root* of long, woolly fibres: culms about eighteen inches high, stiff, slender, leafy: leaves linear, keeled, long-pointed, very hairy on the upper surface: spike an inch or more in length. Perennial: flowers in July: found many years ago on the coast between Arbroath and Montrose, by Mr. G. Don; but not since observed there or elsewhere. *Eng. Bot.* vol. xxxii. pl. 2267. *Eng. Fl.* vol. i. p. 185. 208.

TRIGYNIA.

58. MON'TIA. Linn. WATER CHICKWEED.

Calyx inferior, of 2 ovate, concave, erect, permanent leaves. Corolla of 1 petal, divided into 5 segments; three smaller, bearing the stamens. Filaments capillary, as long as the corolla, to which they are attached; anthers small, 2-lobed. Germen superior, turbinate, 3-lobed; styles very short; stigmas 3, oblong, downy above. Capsule turbinate, 1-celled, 3-valved. Seeds 3, roundish.—Named after *Joseph de Monti*, a naturalist of Bologna. 71.

1. M. fonta'na. L. *Water Chickweed. Water Blinks.*——*Root* fibrous: stems succulent, two or three inches high, much branched: leaves opposite, broadly spathulate: flowers small, white: seeds black, shining. Annual: flowers in May: grows in springs, and by the sides of rivulets, forming dense tufts, the stems sometimes short, with obovate leaves, sometimes much elongated, with narrower leaves: common. *Eng. Bot.* vol. xvii. pl. 1206. *Eng. Fl.* vol. i. p. 187. 209.

59. POLYCAR'PON. Linn. ALL-SEED.

Calyx inferior, of 5 ovate, keeled, permanent leaves. Petals 5, shorter than the calyx, ovate, notched at the end, permanent. Filaments 3, sometimes 5, filiform, half the length of the calyx; anthers roundish, 2-lobed. Germen ovate; styles 3, short; stigmas blunt. Capsule ovate, 1-celled, 3-valved. Seeds numerous, oval, nearly sessile on a central receptacle.—Named from πολυς, many, and καρπος, seed. 72.

1. P. tetraphyl'lum. L. *Four-leaved All-seed.*——*Root* tapering; stem much branched, lying flat on the ground: leaves obovate, smooth, stalked, in fours, one pair crossing the other: panicles terminal, repeatedly forked: flowers greenish white. Annual: flowers throughout the summer: grows on the sea-shore: rare. Southern counties of England: Guernsey and Jersey. *Eng. Bot.* vol. xv. pl. 1031. *Eng. Fl.* vol. i. p. 189. 210.

60. HOLOS'TEUM. Linn. JAGGED CHICKWEED.

Calyx inferior, of 5 ovate, permanent leaves. Petals 5, oblong, deciduous, jagged or toothed. Filaments 3, capillary, shorter than the petals; anthers roundish. Germen roundish;

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styles 3, hair-like, short; stigmas bluntish, downy. Capsule nearly cylindrical, 1-celled, splitting at the top into six teeth. Seeds numerous, stalked, attached to a central receptacle.—Named from ὅλος, all, and οστεον, bone, the texture being remarkably soft. 73.

1. H. umbella'tum. L. *Umbelliferous Jagged Chickweed.* Flowers in umbels; leaves ovate, acute.——*Root* fibrous: stems four or five inches high, round, leafy: flowers umbellate: petals white, tinged with red. Annual: flowers in April: grows on old walls: rare. About Norwich and Bury. *Eng. Bot.* vol. i. pl. 27. *Eng. Fl.* vol. i. p. 188. 211.

Class IV. TETRANDRIA.

Plants bearing Flowers with four Stamens.

Order I. MONOGYNIA. *One Pistil.*

* *Flowers of one petal, superior, one-seeded.*

1. DIP'SACUS. *Involucre* many-leaved. *Calyx* cup-shaped, undivided, crowning the seed. *Receptacle* with spinous scales.
2. KNAUTIA. *Involucre* many-leaved. *Calyx* cup-shaped, with radiant teeth. *Receptacle* hairy, without scales.
3. SCABIO'SA. *Involucre* many-leaved. *Calyx* variously cut, crowning the seed. *Receptacle* scaly.

** *Flowers of one petal, superior, two-seeded.*

4. SHERAR'DIA. *Corolla* funnel-shaped. *Fruit* crowned with the six-toothed calyx, dry.
5. ASPE'RULA. *Corolla* funnel-shaped. *Fruit* crowned with the limb of the calyx.
6. GA'LIUM. *Corolla* rotate. *Fruit* dry, not crowned by the calyx.
7. RU'BIA. *Corolla* campanulate. *Fruit* pulpy.

*** *Flowers of one petal, inferior.*

8. CICEN'DIA. *Corolla* funnel-shaped, 4-cleft. *Stamens* shorter than the limb. *Capsule* 2-valved, separating at the top.
9. PLANTA'GO. *Corolla* with the segments reflexed. *Stamens* very long. *Capsule* 2-celled, bursting all round.
10. CENTUN'CULUS. *Corolla* with the tube inflated, the segments spreading. *Stamens* short. *Capsule* 1-celled, bursting all round.

**** *Flowers of four petals.*

11. EPIME'DIUM. *Nectaries* 4, lying on the petals. *Pod* 1-celled, many-seeded. *Calyx* deciduous.
12. COR'NUS. *Nectaries* none. *Drupe* inferior. *Nut* 2-celled.

(*Cardamine Senebiera*).

***** *No petals.*

13 PARIETA'RIA. *Calyx* 4-cleft, inferior. *Stamens* elastic.

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Fruit campanulate, inclosed in the elongated calyx. Some flowers destitute of stamens.

14. ISNAR'DIA. *Calyx* 4-cleft, superior. *Capsule* quadrangular, 4-celled, crowned by the calyx.
15 SANGUISOR'BA. *Calyx* 4-cleft, superior, coloured. *Stamens* dilated upwards. *Capsule* quadrangular, 1-celled, not bursting.
16. ALCHEMIL'LA. *Calyx* 8-cleft, inferior. *Fruit* 1-seeded, surrounded by the calyx.

Order II. DIGYNIA. *Two Pistils.*

(*Alchemilla*, some species of *Gentiana* and *Cuscuta*.)

Order III. TETRAGYNIA. *Four Pistils.*

17. I'LEX. *Corolla* rotate, 4- or 5-cleft. *Berry* round, 4-seeded, some flowers destitute of pistils.
18. SAGI'NA. *Petals* 4. *Capsule* 8-celled, 4-valved.
19. MŒN'CHIA. *Petals* 4. *Capsule* 1-celled, opening with 8 teeth.
20. RADIO'LA. *Petals* 4. *Capsule* 8-celled, 8-valved.
21. TILLÆ'A. *Petals* 4, 3, or 5. *Capsules* several, 2-seeded.
22. POTAMOGE'TON. *Perianth* of 4 scales. *Drupes* 4, sessile.
23. RUP'PIA. *Perianth* none. *Nuts* 4. *Seeds* 4, stalked.

TETRANDRIA—MONOGYNIA.

1. DIP'SACUS. Linn. TEASEL.

Involucre many-flowered, of many spreading, permanent leaves. Involucel forming a thickened margin to the germen. Calyx superior, undivided. Corolla tubular; the limb 4-lobed, the outer lobe larger. Filaments capillary, longer than the corolla; anthers oblong, fixed sidewise. Germen inferior; style filiform, as long as the corolla; stigma simple. Fruit quadrangular, with 8 depressions, 1-seeded, crowned with the calyx. Common receptacle conical, covered with spinous scales. Named from διψαω, to thirst, the upper leaves containing water. 74.

1. D. Fullo'num. L. *Fuller's Teasel.* Leaves united, serrate; scales of the receptacle hooked backwards; involucre spreading. ——*Root* fleshy, tapering: stem five or six feet high, erect, furrowed, prickly, branched above: leaves oblong, sessile, united at the base, serrate: flowers whitish. Cultivated for the use of clothiers, who employ the scales of the receptacle to raise the nap upon woollen cloths. For this purpose the heads are fixed round the circumference of a large broad wheel, which is made to turn round, and the cloth is held against them. Biennial: flowers in July: grows about hedges: rare. It is probably only a variety of *D. sylvéstris*. *Eng. Bot.* vol. xxix. pl. 2080. *Eng. Fl.* vol. i. p. 192. 212.

2. D. sylves'tris. L. *Wild Teasel.* Leaves opposite, serrate; scales of the receptacle straight; involucre bent inwards, longer than

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the head of flowers.——*About* four feet high: leaves lanceolate: heads large. Biennial: flowers in July: grows about hedges and by road-sides: frequent in England; rare in Scotland. *Eng. Bot.* vol. xv. pl. 1032. *Eng. Fl.* vol. i. p. 193. 213.

3. D. pilo'sus. L. *Small Teasel. Shepherd's Staff.* Leaves petiolate, with two leaflets at the base; involucre bent downwards, about the length of the head.——*Stem* three or four feet high, rough: flowers white, in small, round heads. Biennial: flowers in August and September: grows in moist, shady places: rare. In Norfolk, Suffolk, and Derbyshire. *Eng. Bot.* vol. xiii. pl. 877. *Eng. Fl.* vol. i. p. 193. 214.

2. KNAUTIA. Linn. Coult. KNAUTIA.

Involucre many-flowered, of many spreading leaves. Involucel with 4 minute teeth. Calyx cup-shaped, with radiating teeth. Corolla tubular, dilated upwards, limb with 4 or 5 segments. Filaments capillary; anthers oblong, fixed sidewise. Germen inferior; style filiform, as long as the corolla; stigma cleft. Fruit quadrangular, with 4 depressions, 1-seeded. Receptacle hairy, without scales.—Named after *Christopher Knaut*, a Saxon botanist. 75.

1. K. arven'sis. L. Coult. *Field Knautia.* Corolla 4-cleft; the external flowers radiating; lower leaves simple, stem-leaves pinnatifid, jagged; stem bristly.——*Roots* long, branched: stem about three feet high: root-leaves lanceolate, serrate, stalked: stem-leaves pinnatifid, sessile: flowers pale purple, those of the circumference larger. Perennial: flowers in July: grows in pastures, the edges of corn-fields, and by road-sides: common. *Eng. Bot.* vol. x. pl. 659. *Eng. Fl.* vol. i. p. 195. 215.

3. SCABIO'SA. Linn. SCABIOUS.

Involucre many-flowered, of many spreading leaves, arranged in several rows. Involucel membranous, plaited. Calyx with 5 awl-shaped segments. Corolla tubular, dilated upwards; limb with 4 or 5 divisions. Filaments capillary, longer than the limb; anthers oblong, fixed sidewise. Germen inferior; style filiform, as long as the corolla; stigma blunt, cleft. Fruit tetragonal, with eight depressions, crowned by the calyx. Receptacle convex, scaly.—Named from *scabies*, a cutaneous disease. 76.

1. S. succi'sa. L. *Devil's-bit Scabious.* Corolla divided into 4 nearly equal segments; heads of flowers nearly globular; leaves of the stem distantly toothed.——*Root* fleshy, abrupt at the lower end: stem about a foot high: root-leaves ovate or obovate, entire: stem-leaves toothed or serrate, the uppermost lanceolate, entire: flowers deep purplish blue. Perennial: flowers in June and July: grows in meadows and pastures: common. "The great part of the root," says Gerarde, "seemeth to be bitten away: old fantasticke charmers report, that the divel did bite it for envie, because it is an herbe that hath so many good vertues, and is so beneficial to mankinde." *Eng. Bot.* vol. xiii. pl. 878. *Eng. Fl.* vol. i. p. 194. 216.

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2. S. columba'ria. L. *Small Scabious.* Corolla divided into 5 unequal segments; root-leaves ovate, notched; the others pinnatifid, linear.——*Root* woody: stem about a foot high: root-leaves stalked, the others sessile: flowers radiating. Perennial: flowers in June and July: grows in dry pastures: frequent in England; rare in Scotland; Berwickshire, Montrose, Arbroath. *Eng. Bot.* vol. xix. pl. 1311. *Eng. Fl.* vol. i. p. 195. 217.

4. SHERAR'DIA. Linn. SHERARDIA, or FIELD-MADDER.

Calyx very small, 5-toothed, superior. Corolla funnel-shaped, with 4 equal, acute segments. Filaments recurved, arising from the mouth of the tube; anthers roundish. Germen inferior, 2-lobed; style capillary, cleft at the top; stigmas knobbed. Fruit roundish, rough, crowned with the calyx.—Name in honour of *James Sherard*, a patron of botany. 77.

1. S. arven'sis. L. *Blue Sherardia.* All the leaves in whorls; flowers terminal.——*Root* small: stems numerous, spreading, generally decumbent: leaves 6 in a whorl: flowers pale purplish-blue, or pale purple, in a sessile terminal umbel. Annual: flowers from May to July: grows in corn and fallow fields: common. *Eng. Bot.* vol. xiii. pl. 891. *Eng. Fl.* vol. i. p. 196. 218.

5. ASPE'RULA. Linn. WOODRUFF.

Calyx small, 4-toothed, superior, deciduous. Corolla funnel-shaped: tube nearly cylindrical; limb in 4 oblong spreading segments. Filaments from the mouth of the tube, short; anthers 2-lobed. Germen inferior, 2-lobed. Style filiform, cleft; stigmas knobbed. Fruit 2-lobed, not crowned by the calyx.—Named from *asper*, rough. 78.

1. A. odora'ta. L. *Sweet Woodruff.* Leaves 8 in a whorl, lanceolate; panicles stalked; few-flowered.——*Stems* simple, about a foot high: leaves spreading, rough at the edges: flowers white. The plant, which is a general favourite, in drying emits a pleasant odour, resembling that of new hay. Perennial: flowers in May: grows in woods and shady places: common. *Eng. Bot.* vol. xi. pl. 755. *Eng. Fl.* vol. i. p. 197. 219.

2. A. Cynan'chica. L. *Small Woodruff. Squinancy Wort.* Leaves 4 in a whorl, linear, the upper ones very unequal; flowers 4-cleft.——*Stems* about 6 inches high: flowers white in terminal panicles. Perennial: flowers in June and July: grows on dry banks in various parts of England. *Eng. Bot.* vol. i. pl. 33. *Eng. Fl.* vol. i. p. 198. 220.

6. GA'LIUM. Linn. BED-STRAW.

Calyx very small, 4-toothed, superior. Corolla rotate, with 4 acute divisions. Filaments from the base of the corolla, awl-shaped, shorter than the limb; anthers oblong. Germen inferior, of 2 united lobes. Style filiform, cleft, as long as the stamens; stigmas knobbed. Fruit 2-lobed, not crowned by the calyx.—Named from γαλα, milk, which it curdles, or from *gal*, white, Celtic. 79.

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* *Fruit smooth.*

1. G. crucia'tum. L. *Cross-wort. Bed-straw.* Leaves 4 in a whorl, ovate, hairy; stem hairy, simple above; flower-stalks axillar, corymbose, 2-leaved.——*Stem* branched at the base, a foot high, square, feeble: flowers small, yellow. Perennial: flowers in May and June: grows by hedges and way-sides: common. *Eng. Bot.* vol. ii. pl. 143. *Eng. Fl.* vol. i. p. 199. 221.

2. G. ve'rum. L. *Common Yellow Bed-straw.* Leaves 8 in a whorl, linear, channelled, entire at the edges, rough; flowers in large dense panicles.——*Root* very long, creeping, reddish-brown: stems about a foot high, decumbent at the base, hard, much branched: flowers greenish-yellow, very numerous, in dense panicles. The roots were used in the Hebrides for dyeing a brownish-red colour: in sandy soil they attain a length of many feet, and are there easily procured, but the digging for them is injurious by setting loose the sand. Perennial: flowers in June and July: grows in pastures abundantly. *Eng. Bot.* vol. x. pl. 660. *Eng. Fl.* vol. i. p. 208. 222.

3. G. saxa'tile. L. *Smooth Heath Bed-straw.* Leaves 6 in a whorl, obovate, bristle-pointed; stem much branched, smooth, spreading, from three or four inches long in dry open places, to a foot or more among tall herbage or in thickets.——*Stems* prostrate or spreading, square, smooth, ascending towards the end: flowers numerous, white, in terminal and lateral panicles. Perennial: flowers in June and July: grows abundantly in dry heathy places, among stones, &c.: common. *Eng. Bot.* vol. xii. pl. 815. *Eng. Fl.* vol. i. p. 201. 223.

4. G. pusil'lum. L. *Least Mountain Bed-straw.* Leaves 8 in a whorl, narrow-lanceolate, bristle-pointed, somewhat hairy, entire at the margin; panicles terminal, forked; fruit smooth. —— *Stems* very numerous, branched, square, spreading: flowers white, in panicles terminating the stem and branches: nearly allied to *G. saxátile,* and best distinguished from it by its linear-lanceolate leaves. Perennial: flowers in July and August: grows in dry places on hilly ground: rare. *Eng. Bot.* vol. ii. pl. 74. *Eng. Fl.* vol. i. p. 206. 224.

5. G. erec'tum. Huds. *Upright Bed-straw.* Leaves about 8 in a whorl, lanceolate, bristle-pointed, the edges with minute prickles pointing forward; stem weak, slightly hairy under the joints; segments of the corolla taper-pointed.——*Stems* rather erect, swelled at the joints, four-cornered, somewhat hairy, branched: flowers white, in dense, terminal, compound panicles. Perennial: flowers in June and July: grows in hedges and pastures: rare. Norfolk, Sussex, and Cambridge; also in various parts of the south of Scotland. *Eng. Bot.* vol. xxix. pl. 2067. *Eng. Fl.* vol. i. p. 201. *G. cinereum* of Smith is considered a variety:—"Leaves 6 or 8 in a whorl, linear, bristle-pointed, with marginal prickles all pointing forward. ——*Stem* weak, much branched, smooth: corolla taper-pointed." Perennial: flowers in August. Banks of the river Leith, near Edinburgh; and Kinnaird, Forfarshire: Mr. G. Don. *Eng. Bot. Suppl.* pl. 2783. *Eng. Fl.* vol. i. p. 203. 225.

6. G. palus'tre. L. *White Water Bed-straw.* Leaves from 4 to 6 in a whorl, unequal, oblong, obtuse; stems weak, branched in the

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upper part; fruit-stalks straight, spreading at right angles.——*Stem* much branched, from two to four feet high: flowers white, in terminal panicles. Perennial: flowers in June: grows in moist meadows, and the borders of rivers and pools, among reeds and sedges: common. *Eng. Bot.* vol. xxvi. pl. 1857. *Eng. Fl.* vol. i. p. 200. When the angles of the stem, and the nerves at the back and margins of the leaves, are rough with prickles, it is the *G. Witherin'gii*, *Rough Heath Bed-straw*. *Eng. Bot.* vol. xxxi. pl. 2206. *Eng. Fl.* vol. i. p. 200. 226.

7. **G. uligino'sum.** L. *Rough Marsh Bed-straw.* Leaves from 6 to 8 in a whorl, linear-lanceolate, stiff, bristle-pointed, the margins rough with recurved prickles; fruit-stalks straight, spreading. ——*Stems* feeble, about a foot high, with recurved prickles: panicles terminal, small; corolla white. Perennial: flowers in July and August: grows in wet places, among reeds and other plants: common. *Eng. Bot.* vol. xxviii. pl. 1972. *Eng. Fl.* vol. i. p. 201. 227.

8. **G. Mollu'go.** L. *Great Hedge Bed-straw.* Leaves 8 in a whorl, elliptical, bluntish, bristle-pointed, rough-edged; flowers in loose terminal panicles; segments of the corolla taper-pointed; fruit-stalks divaricate.——*Stem* four feet high, feeble, square, swelled above the whorls, smoothish: flowers abundant, white. Perennial: flowers in July and August: grows in hedges and thickets: frequent in England; rare in most parts of Scotland. *Eng. Bot.* vol. xxiv. pl. 1673. *Eng. Fl.* vol. i. p. 203. 228.

9. **G. sacchara'tum.** All. *Warty-fruited Bed-straw.* Leaves 6 in a whorl, lanceolate, the edges with minute prickles pointing forward; stem spreading, slightly branched, rough at the angles; stalks axillar, 3-flowered.——*Stems* several, about six inches long: flowers small, pale yellow: fruit covered with pyramidal warts. Annual: flowers in July: grows in corn-fields: rare. Carse of Gowrie, and near Forfar. Near Malton, Yorkshire. *Valantia Aparine*, Linn. *Eng. Bot.* vol. xxxi. pl. 2173. *G. verrucosum. Eng. Fl.* vol. i. p. 205. 229.

10. **G. spu'rium.** L. *Smooth-fruited Corn Bed-straw.* Leaves about 8 in a whorl, lanceolate, the edges rough with minute reflected prickles; stems with reflected prickles; stalks axillar, many-flowered; fruit smooth.——*Stems* weak, spreading: flowers greenish white, in axillar cymes. Annual: flowers in June and July: found in corn-fields about Forfar, by Mr. G. Don. *Eng. Bot.* vol. xxvi. pl. 1871. *Eng. Fl.* vol. i. p. 206. 230.

11. **G. tricor'ne.** With. *Three-flowered Goose-grass.* Leaves about 8 in a whorl, lanceolate, the edges and ribs with minute reflected prickles; stems several, simple, with deflected prickles; stalks axillar, 3-flowered.——*Stems* weak, spreading, rough with reflected prickles: flowers greenish-white: fruit covered with bristly granulations. Annual: flowers from July to October: grows in dry fields in England: not common. *Eng. Bot.* vol. xxiii. pl. 1641. *Eng. Fl.* vol. i. p. 205. 231.

** *Fruit covered with bristles.*

12. **G. borea'le.** L. *Cross-leaved Bed-straw.* Leaves 4 in a whorl, ovato-lanceolate, 3-nerved, smooth, with rough edges; stems

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erect, stout.——*Root* creeping, reddish: stems a foot high, erect, square, roughish: flowers white, in numerous branched panicles. Perennial: flowers in July: grows in shady places, by rivers and lakes, in the north of England, in Scotland, and in Ireland: frequent. *Eng. Bot.* vol. ii. pl. 105. *Eng. Fl.* vol. i. p. 209. 232.

13. G. Apari'ne. L. *Goosegrass*, or *Cleavers*. Leaves 8 in a whorl, lanceolate, keeled, rough, fringed with reflected prickles; stems feeble.——*Root* fibrous: stem branched, from two to six feet long: flowers few, white, in axillar panicles. Annual: flowers from May to August: grows in hedges: common. *Eng. Bot.* vol. xii. pl. 816. *Eng. Fl.* vol. i. p. 210. 233.

14. G. Parisien'se. L. *Wall Bed-straw*. Leaves 6 in a whorl, lanceolate, pointed, fringed with prickles; stems straggling, rough. ——*Stems* decumbent, square, the angles rough with deflected prickles: flowers pale greenish-yellow: fruit with decurved bristles, or granulated. Annual: flowers in June and July: grows on walls and dry sandy ground in the south of England. *Eng. Bot.* vol. vi. pl. 384. *G. Anglicum*, Huds., differs only in having the fruit granulated, without bristles. *Eng. Bot.* vol. vi. pl. 384. *Eng. Fl.* vol. i. p. 209. 234.

7. RU'BIA. Linn. MADDER.

Calyx very small, 4-toothed, superior. Corolla bell-shaped, with 4 or 5 divisions, without a tube. Filaments awl-shaped, shorter than the corolla; anthers of 2 round cells. Germen inferior, of 2 round lobes; style filiform, cleft at the top; stigmas knobbed. Berry of 2 smooth lobes. Seeds solitary, roundish, with a depression.—Named from *ruber*, red, to dye which colour one of the species is used. 80.

1. R. pere'grina. L. *Wild Madder*. Leaves about 4 in a whorl, elliptical, shining and smooth on the upper side; flowers 5-cleft.—— *Root* creeping, fleshy: stem square, branched, partly remaining during the winter: flowers yellowish-green, in compound terminal panicles. Perennial: flowers in June and July: grows in thickets and on sandy ground in the south of England: frequent. Said by Dr. Mitchell, *Linn. Corresp.* vol. ii. p. 449, to be "plentiful all over the sandy islands on the west of Scotland;" but he must have mistaken for it *Galium verum*, the root of which is similar, and also used for dyeing. *Eng. Bot.* vol. xii. pl. 851. *Eng. Fl.* vol. i. p. 211. 235.

8. CICEN'DIA. Adans. MARSH-CENTAURY.

Calyx inferior, deeply divided into 4 equal, acute segments. Corolla permanent; tube globular, as long as the calyx; limb 4-cleft. Filaments thread-shaped, attached to the tube, as long as the limb; anthers roundish, 2-celled. Germen oval, superior; style filiform, erect, as long as the limb; stigma knobbed. Capsule filling the tube of the corolla, which remains upon it. Seeds numerous, small, attached to a central receptacle.—Name not accounted for. 81.

1. C. filifor'mis. L. Reichb. *Least Marsh-centaury*. Leaves

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sessile, linear-lanceolate; stem slender, forked; flowers on long stalks. ——*Stem* about three or four inches high, erect, round, branched: leaves chiefly radical: flowers small, erect, yellow. Annual: flowers in July, August, and September: grows on sandy bogs, in the south of England, and in some parts of Ireland: rare. *Gentiana filiformis*, Linn. *Eng. Bot.* vol. iv. pl. 235. *Eng. Fl.* vol. i. p. 212. 236.

9. PLANTA'GO. Linn. PLANTAIN.

Calyx inferior, 4-cleft, permanent. Corolla tubular, membranous, permanent; tube swelled; limb 4-cleft, reflected. Filaments threadlike, arising from the tube, exceedingly long; anthers oblong, compressed, 2-celled. Germen inferior, ovate; style filiform, half as long as the stamens; stigma hairy, acute. Capsule ovate, 2-celled. Seeds oblong, sessile.—Name of doubtful origin. 82.

1. P. ma'jor. L. *Greater Plantain.* Leaves ovate, smooth, on longish stalks; scape round; spike long and tapering; seeds numerous in each cell.——*Root* of long fibres: leaves broad, with 7 ribs; stalks from four to eighteen inches high, somewhat rough with short hairs. Perennial: flowers in June and July: grows in pastures and by way-sides: not uncommon. *Eng. Bot.* vol. xxii. pl. 1558. *Eng. Fl.* vol. i. p. 213. 237.

2. P. me'dia. L. *Hoary Plantain.* Leaves ovate, downy, on very short stalks; scape round; spike cylindrical; seeds 1 in each cell.——*Root* somewhat woody: leaves hoary, with 7 ribs: stalk about six inches high, downy. Perennial: flowers in June and July: grows in pastures and by way-sides: common in some parts of England and Ireland, rare in Scotland. The leaves of this and the preceding species are by the common people frequently applied to wounds. Cattle generally reject them. *Eng. Bot.* vol. xxii. pl. 1559. *Eng. Fl.* vol. i. p. 214. 238.

3. P. lanceola'ta. L. *Ribwort Plantain.* Leaves lanceolate; scape deeply furrowed; spike ovate, oblong, or cylindrical; seeds 1 in each cell.——*Leaves* tapering at the base into a broad stalk: hairy at its insertion: stalk about a foot high: spike dark brown. Perennial: flowers from May to August: grows in pastures, meadows, on banks, by way-sides, &c.: common. *Eng. Bot.* vol. viii. pl. 175. *Eng. Fl.* vol. i. p. 214. 239.

4. P. mari'tima. L. *Sea Plantain.* Leaves linear, channelled, nearly entire; scape round, longer than the leaves; spike cylindrical. ——*Roots* large, long, somewhat woody: leaves woolly at the base: stalk from three to ten inches high. On maritime cliffs and banks the leaves are often broader, inclining to lanceolate, and densely hairy. Perennial: flowers in June and July: grows in the clefts of rocks, in dry pastures, among sand and stones, on the sea-shore, and upon the higher mountains of Wales and Scotland: common. *Eng. Bot.* vol. iii. p. 175. *Eng. Fl.* vol. i. p. 215. 240.

5. P. Coro'nopus. L. *Buck's-horn Plantain.* Leaves pinnatifid; scapes round.——*Root* tapering: leaves cut laterally into numerous linear segments, hairy, lying flat on the ground: stalk from two to

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six inches high: capsule 4-celled. Annual: flowers in June and July: grows in sandy and gravelly ground, chiefly near the sea: common. *Eng. Bot.* vol. xiii. pl. 892. *Eng. Fl.* vol. i. p. 216. 241.

10. CENTUN'CULUS. Linn. CHAFF-WEED.

Calyx inferior, 4-cleft, permanent. Corolla of one petal, tubular, not permanent; tube nearly globular; limb 4-cleft, expanded. Filaments thread-shaped, arising from the mouth of the tube; anthers roundish, 2-celled. Germen oblong; style thread-shaped, as long as the stamens; stigma acute. Capsule globose, 1-celled. Seeds numerous, minute, fixed to the central receptacle.—Name doubtful. 83.

1. C. mi'nimus. L. *Small Chaff-weed.* Flowers nearly sessile; corolla destitute of glands at the base; leaves ovate, acute.——*From* one to two inches high: leaves sessile, smooth: flowers axillar, solitary, white. Annual: flowers in June: grows on moist sandy ground: rare. *Eng. Bot.* vol. viii. pl. 531. *Eng. Fl.* vol. i. p. 217. 242.

11. EPIME'DIUM. Linn. BARREN-WORT.

Calyx inferior, of 4 small ovate, deciduous leaves. Corolla of 4 ovate, equal petals. Nectaries 4, lying upon the petals, nearly as large. Filaments awl-shaped, close to the style; anthers oblong, 2-celled, opening from the base upwards. Germen oblong; style roundish, as long as the stamens; stigma simple. Capsule pod-like, oblong, tapering to a point, 1-celled, 2-valved. Seeds numerous, oblong.—Name of doubtful origin. 84.

1. E. alpi'num. L. *Barren-wort.* Stem-leaf twice ternate.——*Root* slender: stems simple, about a foot high, each bearing a single delicate leaf, which is twice ternate, with heart-shaped fringed leaflets: petals dark-red, with pale-yellow nectaries. Perennial: flowers in May: grows in thickets in the mountainous parts of the north of England: rare, and certainly not indigenous. *Eng. Bot.* vol. vii. pl. 438. *Eng. Fl.* vol. i. p. 220. 243.

12. COR'NUS. Linn. CORNEL.

Calyx superior, very small, 4-toothed, deciduous. Corolla of 4 oblong, equal petals. Filaments subulate, erect, longer than the petals; anthers roundish, fixed sidewise. Germen inferior, roundish. Style filiform, as long as the corolla; stigma obtuse. Drupe roundish, dimpled; nut oblong or heart-shaped, 2-celled, with 1 kernel in each cell.—Named from *cornu*, a horn, the wood being hard. 85.

1. C. sangui'nea. L. *Wild Cornel. Dog-wood.* Woody; branches straight; leaves opposite, green on both sides; cymes destitute of involucre.——*A* small tree or bush, five feet high: branches deep-red: leaves opposite, stalked, ovate, smooth, turning red in autumn: flowers white, in terminal cymes: fruit dark-purple. Flowers in June: grows in hedges and thickets in England: frequent. *Eng. Bot.* vol. iv. pl. 249. *Eng. Fl.* vol. i. p. 221. 244.

2. C. Suec'ica. L. *Dwarf Cornel.* Herbaceous; flowers umbel-

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late, surrounded by a 4-leaved involucre, the umbel springing from the fork of the stem.——*Stems* from four to six inches high, erect, leafy, forked; flowers dark-purple, very small: leaves opposite, elliptical. Perennial: flowers in June and July: grows in heathy pastures in Scotland and the north of England: frequent. *Eng. Bot.* vol. v. pl. 310. *Eng. Fl.* vol. i. p. 221. 245.

13. PARIETA'RIA. Linn. PELLITORY.

Calyx inferior, of 1 leaf, divided into 4 deep segments, permanent. Corolla none. Filaments awl-shaped, longer than the calyx, recurved; anthers of 2 distinct lobes. Germen ovate; style filiform, erect; stigma knobbed. Fruit ovate, flattened, invested with the enlarged calyx.—Named from *paries*, a wall. 86.

1. P. officina'lis. L. *Common Pellitory of the Wall.* Leaves ovato-lanceolate; involucre of many ovate leaflets.——*Root* somewhat woody: stems branched, 4-cornered, hairy, reddish: leaves alternate, stalked: flowers numerous, small, axillar, growing in threes, the middle one pistilliferous only. Perennial: flowers through the summer: grows on old walls and among rubbish: common. This plant was formerly in repute as a medicine, but it does not seem to possess any remarkable qualities. *Eng. Bot.* vol. xiii. pl. 879. *Eng. Fl.* vol. i. p. 222. 246.

14. ISNAR'DIA. Linn. ISNARDIA.

Calyx superior, bell-shaped, divided into 4 equal, ovate segments. Corolla none. Filaments subulate, shorter than the calyx; anthers oblong, simple. Germen inferior, 4-cornered. Style cylindrical, long; stigma knobbed. Capsule 4-cornered, oblong, 4-celled, crowned with the calyx. Seeds numerous, oblong.—Named after *Antoine d'Isnard*, a French botanist. 87.

1. I. palus'tris. L. *Marsh Isnardia.*——*Roots* long, thread-like: stems bluntly 4-cornered, leafy: leaves opposite, stalked, ovate, bright green: 2 acute, small bracts: flowers axillar, solitary, sessile, green. Annual: flowers in July: floating in pools: very rare. Found at Buxted, Sussex, by Mr. W. Borrer. Hampshire, Jersey. *Eng. Bot. Suppl.* pl. 2593. *Eng. Fl.* vol. i. p. 223. 247.

15. SANGUISOR'BA. Linn. BURNET.

Calyx superior, of 1 leaf, deeply 4-cleft, the segments ovate, coloured. Corolla none. Filaments dilated upwards, as long as the calyx; anthers roundish, 2-celled. Germen inferior, 4-cornered; style filiform, short; stigma notched. Fruit 4-cornered, 1-celled, not bursting, with 1 or 2 elliptical seeds. —Named from *sanguis*, blood, and *sorbeo*, to absorb. 88.

1. S. officina'lis. L. *Great Burnet.* Spikes ovate; stamens about as long as the calyx.——*A* hard, somewhat woody plant, about two feet high: stem erect, furrowed: leaves pinnate: leaflets cordate, serrate, about four pairs, with a terminal one: spikes about an inch long, purple. Perennial: flowers in June and July: grows in moist pastures, chiefly in the north of England and south of Scotland. *Eng. Bot.* vol. xix. pl. 1312. *Eng. Fl.* vol. i. p. 218. 248.

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16. ALCHEMIL'LA. Linn. LADY'S MANTLE.

Calyx inferior, permanent; limb divided into 8 segments, the 4 outer alternate ones smaller. Corolla none. Filaments subulate, erect, small, standing on the mouth of the calyx; anthers roundish. Germen ovate in the bottom of the calyx. Style filiform, as long as the stamens, standing on the base of the germen; stigma knobbed. Achenium oval, compressed.—Named on account of its supposed alchemical powers. 89.

1. **A. vulga'ris.** L. *Common Lady's Mantle.* Leaves lobed, plaited.——*Root* large, somewhat woody, with long fibres, stems six or eight inches high, round, hairy, branched, leafy: root-leaves numerous, on long stalks, kidney-shaped: stem-leaves much smaller, on short stalks: flowers yellowish-green, in numerous corymbose clusters. Perennial: flowers in June and July: grows in pastures, and by the side of brooks, rivers, and pools: common. *Eng. Bot.* vol. ix. pl. 597. *Eng. Fl.* vol. i. p. 224. 249.

2. **A. alpi'na.** L. *Alpine Lady's Mantle.* Leaves with finger-like divisions, silky on the back.——*Leaves* divided into 5 or 7 elliptical or obovate lobes, serrate towards the extremity, and covered with a beautiful silky down on the back. *Alchemilla conjuncta*, Bab., *A. argentea*, Don., is a variety common in gardens, and perhaps occurring wild occasionally, though I have not seen it so, which has the leaves less deeply divided, and is larger and less silky, but presents no other characters that could, from analogy, be considered indicative of specific difference. Perennial: flowers in July: grows on the high mountains of Wales, the north of England, and Scotland, as well as Ireland, by the sides of rills and streams: abundant. *Eng. Bot.* vol. iv. pl. 244. *Eng. Fl.* vol. i. p. 225. 250.

3. **A. arven'sis.** L. *Parsley Piert.* Leaves flat, 3-lobed, variously cut.——*Root* small, fibrous; stems three or four inches high, spreading, round, leafy: leaves alternate, on short stalks: flowers green: stamens generally four, sometimes one. Annual: flowers from May to August: grows in corn-fields and dry gravelly pastures: common. *Eng. Bot.* vol. xv. pl. 1011. *Eng. Fl.* vol. i. p. 225. 251.

TETRAGYNIA.

17. I'LEX. Linn. HOLLY.

Calyx inferior, 4-toothed, permanent. Corolla rotate, of 4 elliptical segments or petals, much larger than the calyx. Filaments subulate, shorter than the corolla; anthers small, 2-lobed. Germen roundish; styles none; stigmas 4, obtuse, permanent. Berry globular, 4-celled, each cell 1-seeded. Seeds oblong, pointed.—Name used by the Romans. 90.

1. **I. Aquifo'lium.** L. *Common Holly.* Leaves ovate, acute,

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thorny.——*An* evergreen tree, with smooth grayish bark, stiff, shining leaves, whitish flowers, and scarlet berries. Birdlime is procured from the bark by maceration: the wood is used for veneering, and for making handles of knives, &c.; it makes an impenetrable fence, and bears cropping, nor is its verdure ever observed to suffer from our most severe winters. In England houses are ornamented with the leaves and berries at Christmas—a very pleasant practice, whether traceable to Druidism or not. Flowers in May: grows in bushy places and hedges; or in Scotland in the natural woods, sometimes in crevices of rocks: frequent. *Eng. Bot.* vol. vii. pl. 496. *Eng. Fl.* vol. i. p. 228. 252.

18. SAGI'NA. Linn. PEARL-WORT.

Calyx inferior, 4- or 5-leaved. Petals 4 or 5, ovate, entire, spreading, shorter than the calyx; sometimes wanting. Stamens 4, 5, or 10; filaments capillary, ascending, shorter than the calyx; anthers roundish, 2-lobed. Germen superior, ovate; styles subulate, short, spreading; stigmas obtuse, downy. Capsule ovate, 1-celled, 4- or 5-valved. Seeds numerous, very small, stalked, and attached to a central receptacle.—Name signifies fattening food—very inapplicable. 91.

* *Sepals, petals, stamens, and styles, four, or five.*

1. S. procum'bens. L. *Procumbent Pearl-wort.* Stems procumbent; leaves minutely pointed; petals much shorter than the calyx. ——*Stems* from two to four inches long, spreading, leafy: leaves linear, 3-ribbed, usually smooth: flowers drooping: petals white. Perennial: flowers in June and July: grows in dry, gravelly, or sandy soil: common. *Eng. Bot.* vol. xiii. pl. 880. *Eng. Fl.* vol. i. p. 239. 253.

2. S. mari'tima. Don. *Sea Pearl-wort.* Stems nearly erect, smooth; leaves blunt; petals none.——*Stems* two or three inches high, spreading at the bottom, branched, leafy: leaves fleshy, linear, smooth. Annual: flowers from May to August: grows on the seacoast: not uncommon. *Eng. Bot.* vol. xxxi. pl. 2195. *Eng. Fl.* vol. i. p. 240. 254.

3. S. ape'tala. L. *Small Annual Pearl-wort.* Stems nearly erect, hairy; leaves bristle-pointed, fringed; petals generally wanting.——*Stems* two or three inches long, spreading at the base, leafy, covered with spreading hairs; leaves linear, tipped with a bristle, and fringed at the edges: petals sometimes present, very short, white, generally wanting. Annual: flowers from May to August: grows in dry, gravelly, or sandy places, on walls, rocks, &c.: common. *S. ciliata,* Fr. Bab., does not appear to be distinct from *S. apetala.* *Eng. Bot.* vol. xiii. pl. 881. *Eng. Fl.* vol. i. p. 240. 255.

** *Sepals, petals, and styles, five; stamens ten.*

4. S. saxa'tilis. Wimm. *Alpine Pearl-wort.* Leaves subulate, mucronate, smooth; peduncles very long, solitary, smooth: capsule longer than the calyx.——*Root* fibrous: the whole plant glabrous: stems decumbent at the base, jointed: leaves united at the base: petals white, shorter than the calyx. Perennial: flowers in July

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and August: grows on the higher mountains in Scotland: frequent. *Spergula saginoides*, Linn. *Eng. Bot.* vol. xxx. pl. 2104. *Eng. Fl.* vol. ii. p. 339. 256.

5. **S. subula'ta.** Sm. Wimm. *Awl-shaped Pearl-wort.* Leaves subulate, aristate, ciliate; peduncles very long, solitary, glandular-hairy; capsule longer than the calyx.——*Root* fibrous: stem decumbent at the base: petals white, longer than the calyx. Perennial: flowers in July and August: grows in dry, sandy, or gravelly places: frequent. *Sagina procumbens.* B. Linn. *Spergula subulata*, Sm. *Eng. Bot.* vol. xvi. pl. 1082. *Eng. Fl.* vol. ii. p. 339. 257.

6. **S. nodo'sa.** L. E. Meyer. *Knotted Pearl-wort.* Leaves opposite, subulate, glabrous, united at the base, the upper bearing tufts of small leaves in the axils; petals much longer than the calyx. ——*Root* slender, tapering, branched: the whole plant glabrous; sometimes glandular-hairy: central stem short, not flowering; lateral stems procumbent at the base, then ascending: flowers large, conspicuous, white. Perennial: flowers in July and August: grows in wet sandy places: not uncommon. *Spergula nodosa*, Linn. *Eng. Bot.* vol. x. pl. 694. *Eng. Fl.* vol. ii. p. 338. 258.

19. MŒNCHIA. Ehrh. MŒNCHIA.

Calyx inferior, of 4 sepals. Petals 4, lanceolate, pointed, converging, permanent. Filaments, capillary, ascending, shorter than the petals; anthers roundish, 2-lobed. Germen superior, ovate; styles very short, spreading; stigmas obtuse, downy. Capsule cylindrical, 1-celled, 1-valved. Seeds numerous, kidney-shaped, stalked and attached to a common receptacle.—Named after *Conrad Mœnch*, a German Professor of Botany. 92.

1. **M. erec'ta.** L. Sm. *Upright Mœnchia, Least Stichwort.*——*Root* fibrous: stems erect, three or four inches high, round, leafy: leaves opposite, sessile, between linear and lanceolate: petals white. Annual: flowers in May: grows in moist gravelly places: frequent. *Sagina erecta*, Linn. *Eng. Bot.* vol. ix. pl. 609. *Eng. Fl.* vol. i. p. 241. 259.

20. RADIO'LA. Gmel. ALL-SEED.

Calyx inferior, with four 3-cleft segments. Petals 4, obovate, as long as the calyx. Filaments 4, subulate, as long as the petals; anthers roundish, 2-lobed. Germen superior, roundish, 4-lobed; styles 4, hair-like, very short, permanent; stigmas knobbed. Capsule roundish, 8-valved, 8-celled. Seeds solitary, ovate, polished.—Named from *radius*, a ray. 93.

1. **R. Millegra'na.** Sm. *All-seed.*——*From* one to two inches high: root fibrous: stem erect, repeatedly forked, leafy: leaves ovate, sessile, opposite: flowers axillar, stalked, white. Annual: flowers in July and August: grows in gravelly and sandy soil, on heaths, &c.; not very uncommon. *Linum Radiola*, Linn. *Eng. Bot.* vol. xiii. pl. 893. *Eng. Fl.* vol. i. p. 243. 260.

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21. TILLÆ'A. Linn. TILLÆA.

Calyx inferior, with 3 or 4 large, ovate segments. Petals 3 or 4, ovate, acute, rather smaller than the calyx. Filaments 3 or 4, simple, subulate, erect, shorter than the corolla; anthers roundish, 2-celled. Germens 3 or 4, ovate, superior. Styles very short; stigmas obtuse. Capsules oblong, pointed, reflected, 1-celled, 2-valved; 2 seeds in each capsule.—Named after the Italian botanist *Tilli*. 94.

1. **T. musco'sa.** L. *Mossy Tillæa*, or *Red-Shanks*. Stems procumbent; flowers sessile, 3-cleft.——*From* one to two inches high: root fibrous: stems at first nearly erect, soon becoming procumbent, round, leafy, red: leaves oval, opposite, succulent, reddish, smooth: petals white, tinged with red. Perennial: flowers in May and June: grows on sandy heaths in Norfolk and Suffolk: common. *Eng. Bot.* vol. ii. pl. 116. *Eng. Fl.* vol. i. p. 242. 261.

22. POTAMOGE'TON. Linn. POND-WEED.

Perianth inferior, of 4 roundish equal scales, furnished with a claw. Filaments very short, flat; anthers oblong, 2-lobed. Germens 4, superior, ovate, acute. Style none; stigmas obtuse, permanent. Achenia or nuts 4, roundish, bulging on one side, flattened on the other.—Named from ποταμος, a river, and γειτων, a neighbour. 95.

* *Upper leaves floating.*

1. **P. na'tans.** L. *Broad-leaved Pond-weed.* Upper leaves elliptical, stalked, leathery, floating; lower leaves linear, membranaceous, sessile; fruit keeled at the back.——*Stem* round, much branched: upper leaves brownish-green: spikes simple, raised above the water: the floating leaves afford an agreeable shade to fish, and the roots are a favourite food for swans. Perennial: flowers in July and August: grows in pools, ditches, canals, and rivers: common. *Eng. Bot.* vol. xxvi. pl. 1822. *Eng. Fl.* vol. i. p. 229. 262.

2. **P. oblon'gus.** Viv. *Oblong-leaved Pond-weed.* "Leaves all stalked, upper coriaceous, floating, oblong-elliptical, lower linear-lanceolate; petioles plano-concave above; fruit minute, obtuse, and rounded on the back; peduncles equal." Bab.——"*Stem* creeping below: lower leaves often very narrow. Fruit not exceeding 1 line in length, rounded on the back when fresh, and having 3 faint ridges when dry. Ditches, small streams, ponds." Flowers in July. Bab. *Eng. Bot. Suppl.* 2849. 263.

3. **P. plantagi'neus.** Ducr. *Plantain-leaved Pond-weed.* Leaves all membranous, stalked, upper elliptical, lower oblong; fruit minute, rounded on the back when fresh, acutely keeled when dry.——*Stem* creeping below, branched; leaves reticulated and transparent. Perennial: flowers in June and July: grows in stagnant peaty water. Guernsey: some of the south-eastern counties of England: Berwickshire. Bab. *Eng. Bot. Suppl.* 2848. 264.

4. **P. heterophyl'lus.** Schreb. *Various-leaved Pond-weed.* Upper

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leaves elliptical, stalked, slightly leathery, floating, lower leaves lanceolate, membranous, sessile.——*Upper* leaves thin, sometimes wanting: flower-stalks enlarged upwards: spikes dense. Perennial: flowers in July and August: grows in pools, ditches, canals, and rivers: common. *Eng. Bot.* vol. xviii. pl. 1285. *Eng. Fl.* vol. i. p. 229. 265.

5. **P. lanceola'tus.** Sm. *Lance-shaped Pond-weed.* Leaves lanceolate, membranous, tapering at the base, sessile; spikes dense, few-flowered.——*Leaves* marked with chain-like reticulations near the midrib: spike small, short. Perennial: flowers in July and August: grows in pools and slow streams: rare. Anglesea, Forfarshire, Kincardineshire, Elgin. *Eng. Bot.* vol. xxviii. pl. 1985. *Eng. Fl.* vol. i. p. 233. 266.

6. **P. rufes'cens.** Schrad. *Long-leaved Floating Pond-weed.* Upper leaves obovate, obtuse, stalked, slightly leathery, floating; lower leaves lanceolate, membranous, sessile.——*Upper* leaves olive-coloured or reddish. Perennial: flowers in July and August: grows in ditches, ponds, and slow rivers. *P. fluitans.* *Eng. Bot.* vol. xviii. pl. 1286. *Eng. Fl.* vol. i. p. 231. 267.

** *Leaves submersed, oval or lanceolate, membranous.*

7. **P. den'sus.** L. *Close-leaved Pond-weed.* Leaves opposite, elliptical, tapering to a point, crowded; stem forked; spike 4-flowered. ——*Fruit-stalk* very short, in the fork of the stem: all the leaves are submersed, and very close together. Perennial: flowers in July and August: grows in ditches, ponds, and slow rivers: common. *Eng. Bot.* vol. vi. pl. 397. *Eng. Fl.* vol. i. p. 231. 268.

8. **P. perfolia'tus.** L. *Perfoliate Pond-weed.* Leaves cordate, ovate, embracing the stem, uniform, all submersed.——*Leaves* all sessile, uniform, very pellucid, olive-coloured. Perennial: flowers in July and August: grows in slow rivers and ponds: common. *Eng. Bot.* vol. iii. pl. 168. *Eng. Fl.* vol. i. p. 230. 269.

9. **P. lu'cens.** L. *Shining Pond-weed.* Leaves between elliptical and lanceolate, pointed, stalked, membranous, sessile; spike dense, many-flowered.——*The* largest British species: leaves large, olive-green, with undulated margins, and beautifully veined; sometimes a few coriaceous floating leaves: spike two inches long, of very numerous, green flowers. Perennial: flowers in June and July: grows in ditches, ponds, lakes, and slow rivers: common. *Eng. Bot.* vol. vi. pl. 376. *Eng. Fl.* vol. i. p. 232. 270.

10. **P. longifo'lius.** Gay. *Long-leaved Pond-weed.* Leaves elongated, lanceolate, narrow below, entire, apiculate; peduncles very long, swelling upwards; spikes with few distant flowers.—— *Stem* long, slender: leaves nearly sessile: peduncles much thicker than the stem. Perennial: flowers in August: grows in deep water. Lough Corrib, Galway, Ireland. 271.

11. **P. prælon'gus.** Wolf. *Long-stalked Pond-Weed.* Leaves oblong, obtuse, sessile; peduncles much elongated; spike cylindrical, many-flowered.——*Nearly* as large as the preceding. Perennial: flowers in July: grows in pools and lakes in Scotland; rare. Berwickshire; Moss of Litie, Nairnshire; Lochleven. *Eng. Bot. Suppl.* pl. 2858. 272.

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12. **P. cris'pus.** L. *Curled Pond-weed.* Leaves lanceolate, 3-nerved, waved, serrate, alternate, the upper opposite; stem compressed; fruit with a long beak.——*Leaves* sessile, bright green: flowers yellowish-green, in short, loose spikes. Perennial: flowers in June and July; grows in ditches, pools, and rivulets: common. *Eng. Bot.* vol. xv. pl. 1012. *Eng. Fl.* vol. i. p. 233. 273.

13. **P. filifor'mis.** Pers. *Slender-leaved Pond-weed.* Leaves bristle-shaped, 1-ribbed, parallel, closely set in 2 rows; spike interrupted; achenia rounded on the back.——*Leaves* alternate, bright-green: spikes few, with very distant whorls. Perennial: flowers from June to August: grows in lakes and ponds. Berwickshire, Forfarshire. Hook. and Arn. *Brit. Fl.* p. 466. Bab. *Man.* p. 345. 274.

*** *Leaves all submersed, alternate, linear: stipules adnate.*

14. **P. pectina'tus.** L. *Fennel-leaved Pond-weed.* Leaves bristle-shaped, 1-ribbed, parallel, closely set in 2 rows; spikes interrupted: achenia rounded on the back with 2 lateral ridges.——*Leaves* alternate, bright green: spikes few, with interruptions. Perennial: flowers in July: grows in ditches, pools, and rivers: rare. *Eng. Bot.* vol. v. pl. 323. *Eng. Fl.* vol. i. p. 237. 275.

15. **P. zostera'ceus.** Fr. Bab. *Zosteraceous Pond-weed.* Leaves linear, acuminate, 3-nerved, parallel, closely set in 2 rows; spikes interrupted.——*Very* closely allied to the last. "Its fruits are two lines long, with a somewhat facial style and a prominent rounded keel when dry, but no lateral ridges. In the Serpentine, Hyde Park, London. Dr. J. A. Power." Bab. Perennial: flowers in July. 276.

**** *Leaves all submersed, alternate, linear: stipules free.*

16. **P. gramin'eus.** L. *Grassy Pond-weed.* Leaves linear, 5-nerved, tapering towards the base, alternate, sessile; stem round, forked; flower-stalks little longer than the spikes.——*Leaves* bright-green, grassy-looking: spikes ovate, dense. Perennial: flowers in July: grows in ditches and streams: rare. *Eng. Bot.* vol. xxxii. pl. 2253. *Eng. Fl.* vol. i. p. 235. 277.

17. **P. compres'sus.** L. *Compressed Pond-weed.* Stem slightly compressed; leaves linear, 5-nerved, suddenly apiculate; spikes short, lax, with clavate stalks.——*Resembles P. gramineus,* of which it may be only a variety. Perennial: flowers in June and July: grows in ditches. *Eng. Bot.* vol. vi. pl. 418. *Eng. Fl.* vol. i. p. 234. 278.

18. **P. pusil'lus.** L. *Small Pond-weed.* Leaves linear, 3-ribbed, opposite and alternate, spreading at the base; stem round; flower-stalks many times longer than the spikes.——*Leaves* very narrow, pointed, much expanded at the base: spikes nearly globular. Perennial: flowers in July: grows in ponds, ditches, and slow streams: not uncommon. *Eng. Bot.* vol. iii. pl. 215. *Eng. Fl.* vol. i. p. 236. 279.

19. **P. acutifo'lius.** L. *Sharp-leaved Pond-weed.* Leaves linear, taper-pointed, with 3 principal and numerous close parallel intermediate nerves, occupying the whole surface: spikes oval, compact, about equal in length with the short panicle. Perennial: flowers in July. Found by Mr. Borrer, in marsh-ditches at Amberley, Hen-

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field, and Lewes, Sussex. *Eng. Bot. Suppl.* pl. 2609. *Brit. Fl.* 4th ed. p. 69. 280.

20. P. zoste'ræfolius. Schum. *Grass-wrack-like Pond-weed.* Leaves broadly linear, acute, with 3 principal and numerous close parallel intermediate nerves, occupying the whole surface: spikes cylindrical, upon long peduncles. Perennial: flowers in July: grows in ditches: rare. Rivulet at Hovingham, Yorkshire: Lakes of Rescobie and Forfar. *Eng. Bot. Suppl.* pl. 2685. *P. cuspidatus. Eng. Fl.* vol. i. p. 234. 281.

23. RUPPIA. Linn. RUPPIA.

Perianth none. Anthers 4, sessile, equal, roundish, or oblong. 1-celled. Germens 4, ovate, close together; styles none; stigmas obtuse. Achenia 4, ovate, obliquely pointed, each elevated on a long stalk.—Named after *H. B. Ruppius.* 96.

1. R. mari'tima. L. *Common Ruppia.* Cells of the anthers oblong; fruits ovate, oblique, erect.——*The* whole plant submersed. Root fibrous, tufted; stem long; slender, round, much branched, leafy: leaves linear, alternate: spikes 2-flowered, on short axillar stalks. Perennial: flowers in August and September: grows in salt-water, ditches, and pools: not uncommon. *Eng. Bot.* vol. ii. pl. 136. *Eng. Fl.* vol. i. p. 238. 282.

2. R. rostella'ta. Koch. *Rostellate Ruppia.* Cells of the anthers subglobose; fruit ovate, curved, ascending from an obtuse base.——*More* slender than the last: leaves narrower. Perennial: flowers in August and September: grows in salt marshes and pools. Perhaps not very rare: Estuary of the Dee, Aberdeen. Koch. *Fl. Germ.* p. 678. Bab. *Man.* p. 345. 283.

CLASS V. PENTANDRIA.

Plants bearing Flowers with Five Stamens.

Order I. MONOGYNIA. *One Pistil.*

* *Flowers monopetalous, inferior, with two or four single-seeded fruits.*

1. E'CHIUM. *Corolla* irregular, its throat dilated and naked. *Stigma* deeply cleft.
2. PULMONA'RIA. *Corolla* funnel-shaped, its throat naked. *Calyx* prismatic, 5-cleft.
3. LITHOSPER'MUM. *Corolla* funnel-shaped, its throat naked. *Calyx* 5-cleft. *Stamens* included, *filaments* very short. *Achenia* of stony hardness.
4. MERTEN'SIA. *Corolla* funnel-shaped, its throat naked. *Calyx* 5-cleft. *Stamens* protruded, *filaments* elongated. *Achenia* subdrupaceous.
5. SYM'PHYTUM. *Corolla* closed with awl-shaped valves; its limb campanulate.
6. BORA'GO. Throat of the *corolla* with erect, emarginate scales; its limb rotate

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7 LYCOP'SIS. *Corolla* closed with concave obtuse valves; funnel-shaped, with a bent tube. *Fruits* concave at the base.

8. ANCHU'SA. *Corolla* closed with concave obtuse valves; funnel-shaped, with the tube straight. *Fruits* concave at the base.

9. ASPERU'GO. *Corolla* closed with concave obtuse valves; salver-shaped. *Calyx* of the fruit compressed, with jagged, parallel lobes.

10. CYNOGLOS'SUM. *Corolla* half-closed with rounded valves; funnel-shaped. *Fruits* depressed, imperforate, borne upon a central column.

11. MYOSO'TIS. *Corolla* half-closed with rounded valves; salver-shaped; lobes obtuse. *Fruits* perforated at the base, borne by the calyx.

** *Flowers monopetalous, inferior, with many-seeded fruits.*

12. ANAGAL'LIS. *Capsule* 1-celled, bursting all round. *Corolla* rotate. *Stamens* hairy.

13. LYSIMA'CHIA. *Capsule* 1-celled, 5- or 10-valved. *Corolla* rotate.

14. CY'CLAMEN. *Capsule* 1-celled, pulpy within. *Corolla* reflex. *Stigma* acute.

15. PRI'MULA. *Capsule* 1-celled, opening with 10 teeth. *Corolla* salver-shaped, with a cylindrical tube, and open throat. *Stigma* globose.

16. HOTTO'NIA. *Capsule* 1-celled, opening with 5 teeth. *Corolla* salver-shaped. *Stamens* from the margin of the tube. *Stigma* globose.

17. MENYAN'THES. *Capsule* 1-celled. *Corolla* funnel-shaped, hairy. *Stigma* divided.

18. VILLAR'SIA. *Capsule* 1-celled. *Corolla* rotate, hairy. *Stigma* divided.

19. ERYTHRÆ'A. *Capsule* incompletely 2-celled. *Corolla* salver-shaped. *Anthers* after flowering spirally twisted.

20. HYOSCY'AMUS. *Capsule* 2-celled, with a lid. *Corolla* funnel-shaped. *Stigma* knobbed.

21. VERBAS'CUM. *Capsule* 2-celled. *Corolla* rotate, irregular. *Stigma* obtuse. *Stamens* declining.

22. A'TROPA. *Berry* 2-celled. *Corolla* campanulate. *Stamens* distant. *Anthers* cordate.

23. SOLA'NUM. *Berry* 2-celled. *Corolla* rotate. *Anthers* with 2 pores.

24. CONVOL'VULUS. *Capsule* 2-celled, each cell 2-seeded. *Corolla* campanulate, plaited. *Stigma* cleft.

25. POLEMO'NIUM. *Capsule* 3-celled. *Corolla* deeply 5-cleft, the tube closed by 5 valves. *Stamens* inserted upon the valves.

26. AZA'LEA. *Capsule* 5-celled. *Corolla* campanulate. *Stamens* inserted upon the receptacle.

27. VIN'CA. *Follicles* 2, erect. *Corolla* salver-shaped with oblique segments. *Seeds* simple.

*** *Flowers of one petal, superior.*

28. SA'MOLUS. *Capsule* 1-celled, with 5 recurved valves. *Corolla* funnel-shaped or bell-shaped, 5-cleft, with scales between the segments.

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29. JASIO'NE. *Capsule* 2-celled, opening at the top. *Corolla* rotate, deeply 5-cleft. *Stigma* club-shaped. *Anthers* united at the base.
30. PHYTEU'MA. *Capsule* 2- or 3-celled, opening laterally. *Corolla* rotate, deeply 5-cleft. *Stigma* 2- or 3-cleft.
31. LOBE'LIA. *Capsule* 2- or 3-celled. *Corolla* irregular, split longitudinally on the upper side. *Stigma* knobbed, hairy.
32. CAMPA'NULA. *Capsule* 2- or 3-celled, opening with lateral pores. *Corolla* campanulate. *Stigma* 2- or 3-cleft, revolute.
33. LONICE'RA. *Berry* with 1 or more cells, each cell many-seeded. *Corolla* irregular.

(Rubia peregrina.)

**** *Flowers of five petals, inferior.*

34. RHAM'NUS. *Berry* 3-celled, roundish. *Calyx* tubular, bearing the petals.
35. EUO'NYMUS. *Capsule* of 4 or 5 cells. *Seeds* with a fleshy coat. *Calyx* flat, with 4 or 5 segments.
36. IMPA'TIENS. *Capsule* 5-celled, 5-valved. *Corolla* irregular. *Calyx* of 3 sepals, the lower spurred.
37. VI'OLA. *Capsule* 1-celled, 3-valved. *Corolla* irregular, spurred. *Calyx* of 5 sepals, extended at the base.

***** *Flowers of five petals, superior.*

38. RI'BES. *Berry* many-seeded. *Calyx* bearing the petals. *Style* cleft.
39. HE'DERA. *Berry* 5-seeded. *Calyx* surrounding the germen. *Style* simple.

****** *Flowers without petals, or with a single perianth.*

40. GLAUX. *Capsule* superior, 5-seeded. *Calyx* monosepalous, coloured.
41. ILLE'CEBRUM. *Capsule* superior, 1-seeded. *Calyx* of 5 sepals, cartilaginous.
42. THE'SIUM. *Drupe* inferior, dry. *Calyx* leathery, 5-cleft, bearing the stamens.

Order II. DIGYNIA. *Two Pistils.*

* *Flowers monopetalous, inferior.*

43. GENTIA'NA. *Capsule* 1-celled. *Corolla* tubular at the base, bell-shaped or funnel-shaped, destitute of nectariferous pores.
44. CUS'CUTA. *Capsule* 2-celled, bursting all around. *Corolla* bell-shaped.

** *Flowers with the perianth single. Fruits solitary.*

45. BE'TA. *Perianth* deeply 5-cleft, persistent. *Pericarp* kidney-shaped, imbedded in the fleshy tube of the perianth.
46. CHENOPO'DIUM. *Perianth* deeply 5-cleft, persistent. *Pericarp* thin, free. *Testa* crustaceous.
47. SCHOBE'RIA. *Perianth* deeply 5-cleft, without appendages. *Stamens* from the receptacle. *Pericarp* membranous. *Seed* with a crustaceous testa.

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48. SAL'SOLA. *Perianth* deeply 5-cleft, the segments ultimately with a dorsal appendage. *Stamens* from a hypogynous ring. *Pericarp* membranous. *Seed* with a membranous testa.
49. HERNIA'RIA. *Capsule* closed, membranous, invested by the *calyx*. *Petals* 5, filiform. *Fruit* 1-seeded, membranous.
50. UL'MUS. *Capsule* closed, membranous, compressed, margined, superior. *Perianth* 4- or 5-cleft.

(*Polygonum amphibium.*)

*** *Flowers of five petals, superior, with two pericarps.*

A. *Umbels and Umbellules furnished with involucres consisting of bracts.*

51. ERYN'GIUM. *Fruit* obovate, covered with straight scales. *Petals* oblong, equal, inflected, undivided. *Flowers* aggregate, forming a head.
52. HYDROCO'TYLE. *Fruit* round, compressed laterally, striated. *Petals* ovate, acute, equal. *Flowers* in a simple umbel.
53. SANI'CULA. *Fruit* ovate, covered with hooked bristles. *Petals* lanceolate, inflexed, nearly equal. *Umbellules* clustered, the central flowers destitute of stamens and pistils.
54. CAU'CALIS. *Fruit* oblong, compressed transversely. *Carpels* with 4 rows of ascending, awl-shaped, hooked prickles. *Petals* inversely heart-shaped, unequal.
55. DAU'CUS. *Fruit* oblong, compressed transversely. *Carpels* with 4 rows of flat prickles and rough intermediate ribs. *Petals* inversely heart-shaped, unequal.
56. HERA'CLEUM. *Fruit* elliptical or obcordate, compressed, striated. *Petals* inversely heart-shaped, radiant. *Styles* pyramidal at the base.
57. ŒNAN'THE. *Fruit* oblong, somewhat spongy, ribbed. *Petals* inversely heart-shaped, radiant, very unequal. *Styles* slender, enlarged at the base.
58. PEUCE'DANUM. *Fruit* nearly orbicular, crowned with the calyx and styles. *Carpels* with 5 equi-distant ridges, the 2 lateral obsolete. *Petals* inversely heart-shaped, all nearly equal. *Styles* very short, greatly dilated at the base.
59. SILA'US. *Fruit* elliptical. *Carpels* with 5 sharp ridges. *Petals* ovate, entire or slightly emarginate, with an inflexed lobe. *Calyx* obsolete.
60. LIGUS'TICUM. *Fruit* oblong, ribbed, winged. *Petals* elliptical, flattish, contracted at both ends, equal. *Styles* thick, tumid at the base.
61. ME'UM. *Fruit* oblong, ribbed. *Petals* obovate, with an inflected point, equal. *Styles* swelled at the base.
62. CRITH'MUM. *Fruit* elliptical, ribbed, crowned. *Petals* elliptical, acute, incurved, equal. *Styles* short and thick, with swelled base.
63. BUNI'UM. *Fruit* ovate, oblong. *Carpels* with 5 equal ridges. *Petals* inversely heart-shaped, equal. *Styles* awl-shaped, much swelled at the base.
64. SI'UM. *Fruit* ovate or orbicular. *Carpels* with 5 obtuse ridges with an inflexed point. *Petals* inversely heart-shaped, equal. *Styles* cylindrical, swelling a little at the base.
65. SI'SON. *Fruit* ovate or nearly orbicular, ribbed. *Carpels* with

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5 filiform equal ridges. *Petals* elliptical or inversely heart-shaped, involute at the point, equal. *Styles* very short and thick.

66. HELOSCIA'DIUM. *Fruit* ovate or oblong, ribbed. *Carpels* with 5 slender ribs. *Petals* ovate, with a minute tip. *Styles* cylindrical, swelling a little at the base.

67. PETROSELI'NUM. *Fruit* ovate, ribbed, crowned with the calyx and style. *Carpels* with 5 filiform ridges. *Petals* roundish, entire, with a narrow incurved point. *Styles* with a tumid base.

68. CONI'UM. *Fruit* egg-shaped, with 10 acute ribs. *Petals* inversely heart-shaped, slightly unequal. *Styles* a little tumid at the base.

69. BUPLEU'RUM. *Fruit* ovate, obtuse. *Carpels* with 5 ribs. *Petals* wedge-shaped, very short, involute, equal. *Styles* very short, swelled at the base.

70. SE'SELI. *Fruit* ovate, hairy. *Carpels* with 5 prominent corky ribs. *Petals* inversely heart-shaped, broadly pointed, equal. *Styles* short, with a tumid base.

71. TORDY'LIUM. *Fruit* nearly orbicular, striated. *Petals* inversely heart-shaped, with an inflexed point, unequal. *Styles* thread-shaped, swelled at the base.

B. *Umbellules furnished with involucral bracts; umbels naked.*

72. CICU'TA. *Fruit* nearly orbicular, with 6 double ribs. *Petals* ovate or heart-shaped, nearly equal. *Styles* slightly swelled at the base.

73. ÆTHU'SA. *Fruit* ovate, with 10 thick sharply-keeled ribs. *Petals* inversely heart-shaped, deeply-lobed, with an acute inflexed point. *Styles* short, swelled and ovate at the base.

74. ANGE'LICA. *Fruit* roundish. *Carpels* with 3 elevated ribs and 2 wings. *Petals* lanceolate, equal, flattish, with the point inflexed. *Styles* short, erect, broad, and swelled at the base.

75. TORI'LIS. *Fruit* ovate, ribless, covered with ascending bristles. *Petals* inversely heart-shaped, with an inflexed point. *Styles* awl-shaped, short, very broad at the base.

76. ANTHRIS'CUS. *Fruit* ovate, covered with short incurved bristles. *Petals* inversely heart-shaped, equal. *Styles* awl-shaped, tumid at the base.

77. CHÆROPHYL'LUM. *Fruit* smooth, ribless. *Petals* inversely heart-shaped, with an inflexed point, somewhat unequal. *Styles* short, awl-shaped, tumid at the base.

78. MYR'RHIS. *Fruit* narrow oblong, deeply-furrowed at the suture, smooth. *Petals* uniform, inversely heart-shaped, with an inflexed taper point. *Styles* awl-shaped, very tumid at the base.

79. SCAN'DIX. *Fruit* elliptical, obtusely ribbed, somewhat bristly, with a very long beak. *Petals* unequal, undivided, tapering at the base. *Styles* short, swelled at the base.

80. FŒNI'CULUM. *Fruit* oblong. *Carpels* with 5 prominent obtusely-keeled ridges. *Petals* roundish, entire, with a broad obtuse inflexed lobe.

81. CORIAN'DRUM. *Fruit* globose. *Carpels* with the ribs obsolete, the interstices slender. *Petals* obcordate, with an inflexed point.

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C. *Umbels and Umbellules without bracts.*

82. A'PIUM. *Fruit* roundish, ribbed. *Petals* roundish with a small inflexed point, equal. *Styles* swelled at the base.
83. TRINIA. Diœcious. *Fruit* ovate. *Carpels* with 5 prominent ridges. *Petals* with an inflexed point, most of the fertile flowers broader, ovate.
84. SMYR'NIUM. *Fruit* roundish, ribbed. *Petals* lanceolate, incurved, equal. *Styles* swelled and depressed at the base.
85. PHYSOSPER'MUM. *Fruit* of 2 ovato-globose carpels, each with 5 indistinct, slender ribs. *Petals* inversely heart-shaped, with an inflexed point.
86. PASTINA'CA. *Fruit* broadly elliptical, ribbed. *Petals* broadly lanceolate, involute, equal. *Styles* very short, erect, with knobbed stigmas.
87. PIMPINEL'LA. *Fruit* roundish, ribbed. *Petals* inversely heart-shaped, nearly equal. *Styles* threadlike, as long as the fruit.
88. CA'RUM. *Fruit* oblong, ribbed. *Petals* inversely heart-shaped, unequal. *Styles* swelled at the base, subsequently elongated.
89. ÆGOPO'DIUM. *Fruit* elliptical, ribbed. *Petals* inversely heart-shaped, unequal. *Styles* ovate at the base.

Order III. TRIGYNIA. *Three Pistils.*

* *Flowers superior.*

90. VIBUR'NUM. *Corolla* 5-cleft. *Berry* 1-seeded.
91. SAMBU'CUS. *Corolla* 5-cleft. *Berry* 2-seeded.

** *Flowers inferior.*

92. CORRIGI'OLA. *Petals* 5. *Fruit* 1-seeded, indehiscent.
93. STAPHYLE'A. *Petals* 5. *Capsules* 2 or 3, membranaceous, inflated.
94. TA'MARIX. *Petals* 5. *Capsule* 3-valved. *Seeds* numerous, downy.

(*Chenopodium. Stellaria media.*)

Order IV. TETRAGYNIA. *Four Pistils.*

95. PARNAS'SIA. *Petals* 5. *Nectaries* 5, fringed with bristles bearing globes. *Capsule* 4-valved.

Order V. PENTAGYNIA. *Five Pistils.*

96. ARME'RIA. *Petals* 5. *Styles* hairy. *Capsule* 1-seeded. *Flowers* in a head, having an inverted cylindrical sheath.
97. STATICE. *Petals* 5. *Styles* glabrous. *Capsule* 1-seeded. *Flowers* spicate.
98. LI'NUM. *Petals* 5. *Capsule* 10-celled.
99. SIBBAL'DIA. *Petals* 5. *Calyx* 10-cleft. *Achenia* 5.

(*Spergula. Cerastium.*)

Order VI. HEXAGYNIA. *Six Pistils.*

100. DRO'SERA. *Petals* 5. *Capsule* 1-celled, many-seeded.

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Order VII. POLYGYNIA. *Numerous Pistils.*

101. MYOSU'RUS. *Petals* 5, with tubular nectariferous claws. *Calyx* spurred at the base.

(*Ranunculus hederaceus.*)

PENTANDRIA.—MONOGYNIA.

1. E'CHIUM. Linn. VIPER'S-BUGLOSS.

Calyx inferior, permanent, 5-cleft, the segments awl-shaped. Corolla irregular, bell-shaped; tube very short; limb gradually widening upwards; segments 5, the 2 uppermost longest, the lower smallest; mouth open and naked. Filaments as long as the corolla, awl-shaped, unequal; anthers oblong, fixed sidewise. Germens 4; style thread-shaped, long; its summit blunt, cleft. Fruits 4, roundish, wrinkled, obliquely pointed. —Named from ἔχις, a viper. 97.

1. **E. vulga're.** L. *Common Viper's-bugloss.* Stem simple, rough with bristles and tubercles; stem-leaves lanceolate, bristly; spikes short, lateral, hairy, deflexed.——*Stems* from one to two feet high, round: leaves alternate, entire, dull green: the lowest stalked: flowers large, crowded, beautiful, bright purplish blue, sometimes white. Biennial: flowers in June and July: grows in corn-fields and waste ground: common. *Eng. Bot.* vol. iii. pl. 181. *Eng. Fl.* vol. i. p. 269. 284.

2. **E. viola'ceum.** L. *Violet-flowered Bugloss.* Stem spreading, branched, rough with bristles and tubercles; lower leaves ovato-oblong, stalked, upper leaves cordate and somewhat clasping at the base.——*Stem* often decumbent: spikes longer than in the preceding, and bearing more distant flowers. Biennial: flowers in July and August: grows in sandy ground: very rare: plentiful about St. Hélier, Jersey. *Eng. Bot. Suppl.* 2789. 285.

2. PULMONA'RIA. Linn. LUNG-WORT.

Calyx inferior, prismatic, 5-cornered, with 5 equal segments. Corolla funnel-shaped; tube cylindrical, long; mouth naked and open. Filaments very short; anthers oval, erect. Germens 4, roundish; style thread-shaped, short; stigmas small, notched. Fruits 4, globular, hairy.—Named from *pulmones*, the lungs, the spotted leaves being supposed to resemble those organs. 98.

1. **P. officina'lis.** L. *Common Lung-wort.* Leaves ovate.——*Root* fibrous: stems about a foot high, erect, leafy, hairy: leaves hairy, generally speckled with white on the upper side, the lower on long bordered stalks, the upper sessile: flowers violet-blue. Perennial. flowers in May: grows in woods and shady lanes: rare, and scarcely wild. *Eng. Bot.* vol ii. pl. 118. *Eng. Fl.* vol. i. p. 262. 286.

2. **P. angustifo'lia.** L. *Narrow-leaved Lung-wort.* Leaves

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lanceolate.——*Taller* than the former, and differing chiefly in the form of the leaves, which are seldom spotted. Perennial: flowers in May and June: grows in woods and thickets: rare. Isle of Wight; New Forest, Hampshire. *Eng. Bot.* vol. xxiii. pl. 1628. *Eng. Fl.* vol. i. p. 263. 287.

3. LITHOSPER'MUM. Linn. GROMWELL.

Calyx inferior, oblong, deeply 5-cleft; segments acute, equal, nearly erect. Corolla funnel-shaped; tube open. Filaments very short; anthers oblong, concealed in the tube. Germens 4; style thread-shaped, shorter than the tube; stigma obtuse, notched. Fruits 4, ovate, pointed, with a very hard, or stony, pericarp, and seated on a hypogynous disk, free from the style. —Named from λιθος, a stone, and σπερμα, seed. 99.

1. **L. officina'le.** L. *Common Gromwell. Graymill.* Corolla little longer than the calyx; leaves lanceolate, rather acute.——*Root* tapering, whitish: stem about two feet high: leaves grayish-green: corolla pale-yellow. Perennial: flowers in May: grows in dry gravelly places: not common. *Eng. Bot.* vol. ii. pl. 134. *Eng. Fl.* vol. i. p. 256. 288.

2. **L. arven'se.** L. *Corn Gromwell.* Corolla little longer than the calyx; leaves narrow, lanceolate, obtuse.——*Root* tapering, with a purplish-red bark: stem about a foot high: leaves bright-green: corolla white. Annual: flowers in May and June: grows in cornfields and waste places: common. *Eng. Bot.* vol. ii. pl. 123. *Eng. Fl.* vol. i. p. 256. 289.

3. **L. pur'puro-cœru'leum.** L. *Creeping* or *Purple Gromwell.* Corolla much longer than the calyx; leaves lanceolate.——*Root* woody, blackish: stems several, from twelve to eighteen inches long: some barren, creeping, and rooting: others erect: corolla large, violet-blue. Perennial: flowers in April and May: grows in mountainous and woody pastures, in Wales and the south of England: rare. *Eng. Bot.* vol. ii. pl. 117. *Eng. Fl.* vol. i. p. 257. 290.

4. MERTEN'SIA. Roth. MERTENSIA.

Calyx 5-cleft, about half the length of the corolla; segments equal, erect. Corolla funnel-shaped, its throat open. Filaments linear, elongated; anthers oblong, protruded. Germens 4; style thread-shaped, longer than the tube; stigma obtuse. Fruits somewhat drupaceous, seated on a hypogynous disk, free from the style.—Named after *F. C. Mertens*, a German botanist. 100.

1. **M. mari'tima.** L. Don. *Sea-side Mertensia.* Leaves ovate, sprinkled with callous dots; stems procumbent.——*Root* slender, very elongated: stems numerous, from one to two feet long: leaves somewhat fleshy, smooth, glaucous: flowers in terminal leafy clusters: corolla twice as long as the calyx, of a beautiful purple. The leaves taste like oysters. It is one of the most beautiful of our plants, singular on account of its glaucous fleshy leaves. Perennial: flowers in June, July, and August: grows on gravelly beaches on the

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sea-shore in the north of England, in Ireland, and in Scotland. *Pulmonaria maritima*, Linn. *Steenhammera*, Reich. Bab. *Eng. Bot.* vol. vi. pl. 368. *Eng. Fl.* vol. i. p. 287. 291.

5. SYM'PHYTUM. Linn. COMFREY.

Calyx inferior, 5-cleft; segments acute. Corolla bell-shaped; mouth closed by 5 lanceolate, fringed valves. Filaments short, anthers arrow-shaped, concealed by the valves. Germens 4, abrupt; style club-shaped, long; stigma undivided. Fruits 4, ovate, on a hypogynous disk, free from the style.—Named from *συμφυω*, to unite, on account of its imagined sanative powers. 101.

1. **S. officina'le.** L. *Common Comfrey.* Leaves ovato-lanceolate, decurrent, covered with fine hairs.——*Rhizoma* oblong, fleshy, black; stems three feet high, hairy, winged; flowers yellowish-white. A variety has purple flowers. Perennial: flowers in May and June: grows on the banks of rivers and ditches: frequent. The roots are glutinous and mucilaginous, and have been used for coughs. *Eng. Bot.* vol. xii. pl. 817. *Eng. Fl.* vol. i. p. 264. 292.

2. **S. tubero'sum.** L. *Tuberous Comfrey.* Leaves ovate, slightly decurrent, covered with coarse hairs, the upper ones opposite.——*Root* white externally: flowers drooping, yellowish-white tinged with green. Perennial: flowers in July: grows on the banks of rivers and ditches: common in Scotland; rare in England. *Eng. Bot.* vol. xxi. pl. 1502. *Eng. Fl.* vol. i. p. 264. 293.

6. BORA'GO. Linn. BORAGE.

Calyx inferior, deeply 5-cleft. Corolla rotate: mouth bordered with 5 short notched valves, or with awl-shaped valves, or with both. Filaments awl-shaped, anthers arrow-shaped or oblong. Germens 4; styles cylindrical; stigma knobbed. Achenia 4, ovate, wrinkled, seated on a hypogynous disk, free from the style.—Named from *cor*, the heart, and *ago*, to bring; or from the Celtic *borr*, pride, *borrach*, a haughty man: *borradhad*, valiant. 102.

1. **B. officina'lis.** L. *Common Borage.* Leaves ovate, alternate; mouth of the corolla with a double row of valves, the innermost subulate, bearing the stamens.——*Whole* plant covered with very pungent bristles: flowers numerous, in terminal bunches: corolla brilliant blue, large. The flowers were supposed to be cordial, and excitative of courage (especially if infused in wine); but have apparently lost their efficacy. Biennial: flowers in June and July: grows in waste ground, near houses: not indigenous. *Eng. Bot.* vol. i. pl. 36. *Eng. Fl.* vol. i. p. 265. 294.

7. LYCOP'SIS. Linn. BUGLOSS.

Calyx inferior, deeply 5-cleft. Corolla funnel-shaped; tube twice bent; mouth closed with 5 rounded, hairy valves. Filaments very small; anthers oblong. Germens 4; style thread-

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shaped, short; stigma blunt, notched. Fruits 4, ovate, cornered, seated on a hypogynous disk free from the style.—Named from λυκος, a wolf, and οψις, a face. 103.

1. **L. arven'sis.** L. *Small Bugloss.* Leaves lanceolate, waved, very bristly.——*The* whole plant very rough and bristly: stems erect, roundish, about a foot high: corolla sky-blue, with white valves. Annual: flowers in June and July: grows in corn-fields and by road-sides: common. *Eng. Bot.* vol. xiv. pl. 938. *Eng. Fl.* vol. i. p. 268. 295.

8. ANCHU'SA. Linn. ALKANET.

Calyx inferior, cylindrical, deeply 5-cleft; segments acute. Corolla funnel-shaped; tube straight, tumid below: mouth closed with 5 erect, obtuse, hairy, converging valves. Filaments very short; anthers oblong, concealed by the valves. Germens 4, roundish; style cylindrical, short; stigma cleft. Fruits 4, roundish, wrinkled, each hollowed out at the base, seated on a hypogynous disk, free from the style.—Name from αγχω, to choke. 104.

1. **A. officina'lis.** L. *Common Alkanet.* Spikes crowded, unilateral; leaves lanceolate.——*Stems* from one to two feet high, rough, with strong hairs: corolla deep purple. Perennial: flowers in June and July: grows in waste ground: rare, and not indigenous. Links at Hartley-pans, Northumberland; and near Glasgow. *Eng. Bot.* 296.

2. **A. sempervi'rens.** L. *Evergreen Alkanet.* Peduncles axillar, each bearing 2 dense spikes, with an intermediate flower: leaves ovate, acute.——*Stems* from twelve to eighteen inches high: root-leaves large, often remaining green all the winter, stalked, the rest sessile, all ovate: limb of the corolla brilliant sky-blue, the valves white and downy. Perennial: flowers in May and June: grows by roads and among rubbish: not very common, and probably not indigenous. *Eng. Bot.* vol. i. pl. 45. *Eng. Fl.* vol. i. p. 259. 297.

9. ASPERU'GO. Linn. CATCHWEED.

Calyx inferior, deeply 5-cleft, subsequently enlarged, forming 2 erect lobes. Corolla funnel-shaped; mouth nearly closed by 5 rounded horizontal valves. Filaments very short; anthers small, roundish. Germens 4, compressed; style erect, long; stigma blunt. Fruits 4, oblong, compressed, attached to a central column in pairs.—Name from *asper*, rough. 105.

1. **A. procum'bens.** L. *Trailing Catchweed.* Calyx when in fruit compressed.——*Stems* prostrate, square, leafy, their angles prickly: leaves generally in threes, elliptical, dark-green, covered with bristles: corolla small, blue. Annual: flowers in June and July: grows in waste ground: rare. Kent, Essex, Northumberland, Durham. Dunbar Castle: near Aberlady, East Lothian; Forfarshire and Morayshire. *Eng. Bot.* pl. 36. *Eng. Fl.* vol. i. p. 263. 298.

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10. CYNOGLOS'SUM. Linn. HOUND'S-TONGUE.

Calyx inferior, deeply 5-cleft; segments slightly acute. Corolla funnel-shaped, little longer than the calyx; tube cylindrical, short; mouth half-closed with 5 horizontal valves. Filament short; anthers roundish. Germens 4, depressed; style subulate, central, longish; stigma small, notched. Fruits 4, roundish, imperforate at the base, attached to a central receptacle.—Name from κυων, a dog, and γλωσσα, a tongue. 106.

1. C. officina'le. L. *Common Hound's-tongue.* Stamens shorter than the corolla; stem-leaves broadly lanceolate, sessile, downy.——*Whole* plant dull-green, downy and soft: stem two feet high: root-leaves large, tapering at both ends: clusters terminal, panicled: corolla dull crimson. This plant is suspected of possessing narcotic properties: its smell is very disagreeable, and greatly resembles that of mice. Biennial: flowers in May and June: grows by road-sides and among rubbish: common. *Eng. Bot.* vol. xxiii. pl. 1642. *Eng. Fl.* vol. i. p. 261. 299.

2. C. sylva'ticum. L. *Green-leaved Hound's-tongue.* Stamens shorter than the corolla; leaves lanceolate, the upper embracing the stem, smooth above, hairy and scabrous beneath.——*Whole* plant bright-green: leaves covered on the back with callous warts: flowers dull-blue. Biennial: flowers in June: grows in shady lanes: rare. Essex, Kent, Surrey, Worcestershire, Oxfordshire, Carse of Gowrie, &c. *Eng. Bot.* vol. xxiii. pl. 1643. *Eng. Fl.* vol. i. p. 261. 300.

11. MYOSO'TIS. Linn. SCORPION-GRASS.

Calyx inferior, deeply 5-cleft; segments acute, equal. Corolla salver-shaped; mouth half-closed with 5 small valves. Filaments very short; anthers small, oblong. Germens 4; style filiform, central, as long as the tube; stigma obtuse. Fruits ovate, pointed, smooth.—Named from μυς, a mouse, and ους, an ear. 107.

1. M. palus'tris. With. *Great Water Scorpion-grass.* Stem rough with spreading hairs; racemes leafless; calyx with straight adpressed hairs, and divided about a third down into broad subtriangular segments; when in fruit campanulate, shorter than the divergent pedicels; limb of the corolla flat, longer than the tube, its segments rounded; style as long as the calyx.——*Root* creeping, with long fibres: stem angulate, light-green: from six to twelve inches high: leaves oblong, rough with ascending hairs: corolla larger, bright-blue, with an orange eye and 10 white rays. This is the true *Forget-me-not;* but that name is popularly extended to the next two species, and often to *Veronica Chamædrys.* Perennial: flowers in June and July: grows in marshy places and ditches: common. *M. scorpioides,* Var., *palustris,* Linn. *Eng. Bot. Suppl.* pl. 2661. *Eng. Fl.* vol. i. p. 251. 301.

2. M. re'pens. Don. *Creeping Water Scorpion-grass.* Stem rough with spreading hairs; racemes leafy; calyx with straight adpressed hairs, and divided two-thirds down into narrow oblong, pointed segments; when in fruit cylindrical, slightly spreading at

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the mouth, much shorter than the divergent pedicels; limb of the corolla flat, ultimately convex, longer than the tube, its segments rounded, often repand or emarginate; style shorter than the calyx. ——*Perfectly* distinct from the last, and easily distinguishable. The following description is from recent specimens gathered in Kincardineshire. Root creeping, with long white fibres; stem simple, branched, or much branched, erect, slightly angulate, rough with spreading hairs, as are the branches; leaves oblong, sessile, rather obtuse, rough with ascending hairs; racemes in pairs, with a flower in the fork; peduncles with ascending hairs, becoming adpressed upwards, each with at least one small leaf towards the base; the expanded flowers have the calyx cleft two-thirds down, with linear-oblong, acute segments, which, being longer than the tube of the corolla, spread out considerably; pedicels and calyx with adpressed hairs; corolla with the tube very short, widening upwards, yellow; the limb when fully expanded convex; the segments roundish, often retuse or slightly emarginate; the semi-diameter of the limb equal to twice the length of the tube; the 5 obtuse valvular protuberances of the mouth of the tube chrome-yellow; 5 distinct raised white rays occupy the spaces between the segments, and 5 broader white spaces are placed opposite the centres of the segments; the limb smalt-blue, always with a tinge of pink diffused at the base of the segments, the pink more extended on the lower surface; filaments adherent to the tube, the anthers only being free; pistil not reaching the aperture; the partly unfolded corollas are lilac; pedicels of the fruit spreading, divaricate, the lower reflexed, much, or from two to three times, longer than the calyx, which is cylindrical, slightly campanulate, the segments being somewhat spreading at the end, but ultimately becoming nearly straight; achenia roundish, subcompressed, with a thin edge, glabrous and shining. The plant varies from two inches high, with 2 or only 1 flower in the racemes, to a foot high, with a branch bearing two racemes in the axil of each leaf, the racemes with about 25 flowers. Perennial: flowers in June and July: grows in boggy places: abundant in Scotland. *Eng. Bot. Suppl.* pl. 2703. 302.

3. **M. cœspito'sa.** Schultz. *Tufted Water Scorpion-grass.* "Fruits glabrous, calyx quinquefid, with adpressed hairs, when in fruit open, the style very short; cauline leaves linear-oblong, obtuse; stem (in the living plant) round; root descending on all sides, fibrous." I have given Koch's specific character because it agrees well with our plant, of which I have recent specimens in hand. The lower part of the stem is profusely covered with long white fibres; the stem from five inches to a foot long, slightly angulate, covered with minute ascending or adpressed hairs, as are the leaves. The flowers are smaller than in the last species, of a deeper and purer blue, with 10 white rays, the unfolding corollas pink or lilac. The calyx when in fruit is campanulate, the segments, which extend at least half-way down, spreading; the nucules ovate, thin-edged, glabrous, shining; the style shorter than the fruits; the pedicels spreading or deflexed. Perennial: flowers in June, July, and August: grows in watery places: common. *Eng. Bot. Suppl.* pl. 2661. *Eng. Fl.* vol. i. p. 251. 303.

4. **M. alpes'tris.** Schmidt. *Rock Scorpion-grass.* Calyx deeply 5-cleft, covered with erect bristles; leaves hairy, root-leaves half the

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length of the stalks; root fibrous.——*Stems* from three to five inches high: racemes dense: corolla large and blue. Perennial: flowers in July and August: grows on Ben Lawers and other Highland mountains: rare. *Eng. Bot.* vol. xxxvi. pl. 2559. *Eng. Fl.* vol. i. p. 253. 304.

5. **M. sylva'tica.** Hoffm. *Wood Scorpion-grass.* Fruit smooth; calyx deeply 5-cleft, with spreading hooked bristles, when in fruit ovate, shorter than the spreading flower-stalks; limb of the corolla flat, longer than the tube; root-leaves on short dilated stalks.——Perennial: flowers in June and July; grows in dry shady places: not common. *Eng. Bot. Suppl.* pl. 2630. 305.

6. **M. arven'sis.** Hoffm. *Common Field Scorpion-grass.* Fruit smooth; calyx cleft half-way with spreading hooked bristles, when in fruit ovate, shorter than the preceding flower-stalks; limb of the corolla concave, equal in length to the tube.——*Annual:* flowers through the summer and part of autumn: grows in cultivated ground, and in general in loose soil: common. *Eng. Bot. Suppl.* pl. 2629. *Brit. Fl.* p. 91. 306.

7. **M. colli'na.** Hoffm. *Early Field Scorpion-grass.* Fruit smooth; calyx deeply cleft, with spreading hooked bristles, when in fruit bulging at the base, open, equal in length to the spreading flower-stalks; limb of the corolla concave, shorter than the tube; 1 remote axillar flower.——*Root* fibrous: stem from two to four inches high: corolla deep clear blue with a yellow throat. Annual: flowers in April and May: grows in dry pastures, sandy or gravelly open soil, and on wall tops: common. *Eng. Bot. Suppl.* pl. 2629. 307.

8. **M. versi'color.** Lehm. *Yellow and Blue Scorpion-grass.* Calyx deeply 5-cleft, covered with spreading hairs; leaves narrow, oblong, hairy; clusters long, stalked, without a remote flower.——*Root* fibrous: stem three or four inches high: corolla small, blue with a yellow throat. Annual: flowers in June and July; grows in dry waste places, on walls, &c.: common. *Eng. Bot.* pl. 480. fig. 1. *Eng. Fl.* vol. i. p. 254. 308.

12. ANAGAL'LIS. Linn. PIMPERNEL.

Calyx inferior, deeply divided into 5 acute, spreading segments, permanent. Corolla rotate, with scarcely any tube, the limb nearly flat, divided into 5 ovate segments. Filaments slender, erect, shorter than the corolla, covered with glandular hairs; anthers heart-shaped. Germen globular; style filiform; stigma knobbed. Capsule round, 1-celled, splitting across into 2 valves. Seeds numerous, angular.—Named from ἀνα, again, and ἀγαλλω, to adorn. 108.

1. **A. arven'sis.** L. *Common Scarlet Pimpernel.* Leaves ovate, dotted beneath; stem procumbent; corolla minutely notched.——*Stem* trailing or spreading, branched, square: leaves sessile: corolla scarlet, with a violet-coloured mouth. There is a variety with blue flowers, by some considered a distinct species. Annual: flowers in the summer months: grows in fields and gardens: common. *Eng. Bot.* vol. xxvi. pl. 529. *Eng. Fl.* vol. i. p. 281. 309.

2. **A. tenel'la.** L. *Bog Pimpernel.* Leaves roundish, somewhat pointed, stalked: stem creeping.——*Root* and stems creeping:

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leaves finely dotted beneath: flowers large, erect, rose-coloured. Perennial: flowers in July and August: grows on wet heaths and meadows: not uncommon. *Eng. Bot.* vol. viii. pl. 530. *Eng. Fl.* vol. i. p. 282. 310.

13. LYSIMA'CHIA LOOSE-STRIFE.

Calyx inferior, deeply divided into 5 acute segments. Corolla rotate, with scarcely a tube, the limb divided into 5 ovate segments. Filaments subulate; anthers oblong, notched at both ends. Germen roundish; style filiform, as long as the stamens; stigma obtuse. Capsule globose, pointed, 1-celled, 10-valved. Seeds numerous, angular.—Named from λυσις, dissolving, and μαχη, battle. 109.

1. **L. vulga'ris.** L. *Great Yellow Loose-strife.* Racemes panicled, terminal; leaves ovato-lanceolate, acute.——*Root* creeping: stems four feet high, erect, angled; flowers yellow. Perennial: flowers in July: grows in wet shady places: rare in Scotland. *Eng. Bot.* vol. ix. pl. 761. *Eng. Fl.* vol. i. p. 278. 311.

2. **L. thyrsiflo'ra.** L. *Tufted Loose-strife.* Racemes lateral, stalked.——*Root* creeping: stems about two feet high, erect, simple: leaves numerous, opposite, sessile, lanceolate: flowers small, yellow. Perennial: flowers in July: grows in watery places: rare. *Eng. Bot.* vol. iii. pl. 176. *Eng. Fl.* vol. i. p. 279. 312.

3. **L. ne'morum.** L. *Wood Loose-strife. Yellow Pimpernel.* Leaves ovate, acute; stem procumbent; stamens smooth.——*Stems* from six to twelve inches long: flowers golden yellow. Perennial: flowers from May to September: grows in woods and thickets: common. *Eng. Bot.* vol. viii. pl. 528. *Eng. Fl.* vol. i. p. 279. 313.

4. **L. Nummula'ria.** L. *Creeping Loose-strife. Money-Wort.* Leaves ovate, subcordate; flowers solitary; stem prostrate, creeping; stamens glandular. —— *Stems* compressed with 4 prominent angles, from one to two feet long; flowers pale lemon-coloured. Perennial: flowers in June and July: grows in wet meadows, and on the borders of rivulets: frequent, but not in Scotland, and there not indigenous. *Eng. Bot.* vol. viii. pl. 528. *Eng. Fl.* vol. i. p. 280. 314.

14. CY'CLAMEN. Linn. CYCLAMEN.

Calyx inferior, divided half-way into 5 ovate segments, permanent. Corolla rotate, with a nearly globular tube, reflexed limb, and open naked mouth, prominent at the circumference. Filaments very short; anthers straight, acute. Germen roundish; style filiform, longer than the stamens; stigma acute. Capsule globose, 1-celled, the inside pulpy. Seeds numerous, ovate, angular.—Name from κυκλος, a circle. 110.

1. **C. hederafo'lium.** *Ivy-leaved Cyclamen.* Leaves cordate, angular, finely toothed.——*Root* globular, brown: leaves variegated with dark and pale green: flowers pendulous on naked stalks: corolla white or flesh-coloured: very acrid, especially the root. Perennial: flowers in April: grows in thickets and woods, hardly

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indigenous: rare. *Eng. Bot.* vol. viii. pl. 810. *C. Europæum.* *Eng. Fl.* vol. i. p. 274. 315.

15. PRIMULA. Linn. PRIMROSE.

Calyx inferior, tubular, with 5 angles and 5 teeth, erect, permanent. Corolla salver-shaped; tube cylindrical, as long as the calyx; limb spreading, with 5 somewhat deep inversely cordate segments; mouth open. Filaments very short in the throat; anthers pointed, erect, within the tube. Germen globular; style filiform, as long as the calyx; stigma globular. Capsule cylindrical, 1-celled, opening at the top with 19 acute teeth. Seeds numerous, roundish, attached to a central oblong receptacle.—Name from *primus*, first, on account of its early appearance. 111.

1. **P. vulga'ris.** Huds. *Common Primrose.* Leaves oblong-ovate, wrinkled, toothed; flowers in a sessile umbel; limb of the corolla flat.——*Leaves* numerous, radical, unequally toothed, soft, reticulated, gradually tapering downwards into short foot-stalks: flowers seeming solitary, but placed in a sessile, sometimes stalked umbel, numerous, large, sulphur-yellow, having a pleasant smell. Perennial: flowers in April and May: grows in woods, hedges, and thickets, on grassy banks, &c.: common. *Eng. Bot.* vol. i. pl. 4. *Eng. Fl.* vol. i. p. 271. 316.

2. **P. ela'tior.** Jacq. *Oxlip Primrose.* Leaves ovate, wrinkled, toothed; stalk many-flowered; limb of the corolla flat.——*Leaves* contracted about the middle: flowers in an umbel: corolla smaller than in the last, pale-yellow, the centre deeper yellow. This is supposed, without much reason, to be a hybrid between the Primrose and the Cowslip. It is more likely a variety of the former. Perennial: flowers in April and May: grows in woods, hedges, &c.: not common. *Eng. Bot.* vol. viii. pl. 513. *Eng. Fl.* vol. i. p. 271. 317.

3. **P. ve'ris.** L. *Cowslip. Paigle.* Leaves ovate, toothed, wrinkled, contracted towards the middle; stalk many-flowered; limb of the corolla concave.——*Leaves* more downy and softer than in the foregoing; flowers in umbels: corolla with the limb concave, shorter, and of a deeper yellow: the flowers are used for making cowslip wine. Perennial: flowers in April and May: grows in wet pastures: common in England; less so in Scotland. *Eng. Bot.* vol. i. pl. 5. *Eng. Fl.* vol. i. p. 272. 318.

4. **P. farino'sa.** L. *Bird's-eye Primrose.* Leaves obovato-oblong, toothed, even, powdery beneath; limb of the corolla flat; mouth with a notched border; stigma undivided.——*Leaves* mealy underneath, as are the scape and calyx: corolla rose-coloured, the mouth surrounded with a yellow, notched, glandular border: umbel few-flowered. Perennial: flowers in June and July: grows in wet pastures, and by rivulets in the north of England and in Scotland: rare. *Eng. Bot.* vol. i. pl. 6. *Eng. Fl.* vol. i. p. 273. 319.

5. **P. Sco'tica.** Hook. *Scottish Primrose.* Leaves obovato-lanceolate, toothed, even, powdery on both sides: limb of the corolla flat: mouth with a notched border: stigma 5-cleft.——*Smaller* than the last, but proportionally stouter; the leaves mealy on both sides: flowers bluish-purple, the mouth yellow. Perennial: flowers in

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June and July: grows on the east coast of the northern division of Scotland, and in the Orkney Islands. *Eng. Bot. Suppl.* pl. 2608. *Eng. Fl.* vol. i. p. 273. 320.

16. HOTTO'NIA. Linn. FEATHERFOIL.

Calyx inferior, deeply divided into 5 linear segments. Corolla salver-shaped, with a cylindrical, open tube, the limb divided into 5 oblong, notched, equal segments. Filaments subulate, short; anthers oblong. Germen globose, pointed; style short, cylindrical; stigma globular. Capsule globose, pointed, 1-celled, 5-valved. Seeds very numerous, roundish.—Named after a Leyden professor, *P. Hotton.* 112.

1. **H. palus'tris.** L. *Water Featherfoil. Water Violet.* Stalks solitary, many-flowered; partial stalks whorled; leaves pectinate. ——*Foliage* under water, the flowers alone rising above the surface; leaves deeply pinnatifid, with linear segments; flowers in numerous whorls, lilac-coloured, of the shape of those of the primrose. Perennial: flowers in June: grows in ditches and ponds in England: not common. *Eng. Bot.* vol. vi. pl. 364. *Eng. Fl.* vol. i. p. 277. 321.

17. MENYAN'THES. Linn. BOG-BEAN.

Calyx inferior, deeply divided into 5 segments, permanent. Corolla with a short tube, and a limb divided into 5 recurved segments, covered above with long threadlike fibres. Filaments subulate, short; anthers cleft at the base. Germen conical; style cylindrical; stigma notched. Capsule ovate, 1-celled, 2-valved. Seeds numerous, attached to the margins of each valve.—Named from μην, a month, and ανθος, a flower. 113.

1. **M. trifolia'ta.** L. *Marsh Trefoil. Bog-bean.* Leaves ternate, disk of the corolla shaggy.——*Root* large, creeping: stems round: leaves ternate on round petioles: racemes stalked, opposite the leaves: corolla flesh-coloured, the filaments white. This beautiful plant is possessed of powerful medicinal properties: an infusion of the leaves is extremely bitter, and is prescribed in rheumatisms and dropsies: it may be used as a substitute for hops in making beer. Perennial: flowers in June and July: grows in marshy places, ditches, pools, and shallow lakes: abundant. *Eng. Bot.* vol. vii. pl. 495. *Eng. Fl.* vol. i. p. 275. 322.

18. VILLAR'SIA. Vent. VILLARSIA.

Calyx inferior, deeply divided into 5 segments. Corolla rotate, with the limb often fringed with hairs. Capsule 1-celled, valveless or 2-valved. Seeds numerous, attached to the margins of each valve.—Named in honour of *M. de Villars*, a French botanist. 114.

1. **V. nymphæoi'des.** Vent. *Fringed Villarsia*, or *Water Lily.* Leaves cordate, waved at the edges, floating; corolla fringed. ——*Stems* several feet long: flowers axillar: corolla yellow, with a darker disk. Perennial: flowers in July and August: grows in

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ponds and rivers: rare. In several parts of the Thames; in the Isis. *Eng. Bot.* vol. iv. pl. 217. *Menyanthes nymphæoides. Eng. Fl.* vol. i. p. 276. 323.

19. ERYTHRÆ'A. Renealm. CENTAURY.

Calyx inferior, permanent, deeply divided into 5 erect, awl-shaped segments. Corolla salver-shaped; tube nearly cylindrical, slender, longer than the calyx; limb divided into 5 ovate or lanceolate spreading segments. Filaments capillary, equal, much shorter than the corolla; anthers oblong, twisting spirally. Germen oblong, or nearly linear, compressed; style cylindrical, straight; stigmas 2, roundish, finally spreading. Capsule oblong, acute at each end, compressed, imperfectly 2-celled, 2-valved. Seeds numerous, roundish, arranged in 4 rows.—Name from ἐρυθρος, red. 115.

1. E. Centau'rium. L. Pers. *Common Centaury.* Stem nearly simple; panicle forked corymbose: leaves broadly lanceolate; calyx half as long as the tube, its segments partly united by a membrane. ——*Stem* about a foot high, leafy: flowers rose-coloured. Annual: flowers in July and August: grows in dry pastures: common. Bitter and stomachic, formerly much used, but now neglected. *Gentiana Centaurium*, L. *Eng. Bot.* vol. vi. pl. 417. *Eng. Fl.* vol. i. p. 321. 324.

2. E. linaricefo'lia. Pers. *Dwarf Tufted Centaury.* Stem generally simple, straight; leaves linear-oblong, obscurely 3-ribbed; flowers sessile, densely corymbose; calyx as long as the tube, its segments united at the base.——*Two* or three inches high, sometimes five or six, stout: flowers rose-coloured. Annual: flowers in June and July: grows in sandy pastures near the sea: frequent. *Eng. Bot.* vol. xxxiii. pl. 2305. *Eng. Fl.* vol. i. p. 320. 325.

3. E. pulchel'la. Fries. *Dwarf Branched Centaury.* Stem much branched or simple; leaves ovate; flowers stalked, solitary; calyx more than half the length of the tube; segments of the corolla lanceolate.——*Stem* erect, from one to three inches high: flowers from the forks of the stem, as well as terminal, slender, with a pink corolla. Annual: flowers in August and September: grows on sandy ground near the sea: frequent. *Eng. Bot.* vol. vii. pl. 458. *Eng. Fl.* vol. i. p. 323. 326.

4. E. latifo'lia. Sm. *Broad-leaved Centaury.* Stem 3-cleft at the top; flowers in dense tufts; calyx as long as the tube; segments of the corolla lanceolate.——*Stem* erect, stiff: lower leaves broadly elliptical. Annual: flowers in August and September: grows on the sea-shore: rare. Very common in the Outer Hebrides, where it is gathered for the purpose of being infused in spirits as a bitter. *Eng. Fl.* vol. i. p. 321. *Eng. Bot. Suppl.* pl. 2718, but not the ordinary form. 327.

The four alleged species above described are apparently varieties of the same specific form, dependent upon differences of soil and situation.

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20. HYOSCY'AMUS. Linn. HENBANE.

Calyx inferior, tubular, swelling below, the limb divided into 5 segments. Corolla funnel-shaped, irregular, tube cylindrical, short; limb divided half-way into 5 obtuse, rounded segments, one of them broader. Filaments subulate, somewhat unequal in length; anthers cordate. Germen roundish; style filiform, reclined, as long as the stamens; stigma knobbed. Capsule ovate, with a longitudinal furrow at each side, 2-celled, opening transversely. Seeds numerous, inversely ovate, curved, covering the oblong, convex receptacles, which are attached to the partition.—Named from *ὑς*, a hog, and *κυαμος*, a bean. 116.

1. **H. ni'ger.** L. *Common Henbane.* Leaves sinuate, embracing the stem; flowers sessile.——*Stem* branched, rounded: the whole plant woolly and clammy, with a fetid odour: flowers pale-yellowish, with dark purple veins. Poisonous, producing convulsions, delirium, and death: used medicinally as a sedative. Annual: flowers in July: grows in waste ground, in loose, dry soil: frequent. *Eng. Bot.* vol. ix. pl. 591. *Eng. Fl.* vol. i. p. 316. 328.

21. VERBAS'CUM. Linn. MULLEIN.

Calyx inferior, deeply divided into 5 erect, acute, nearly equal permanent segments. Corolla rotate, unequal, the tube very short; the limb spreading, deeply divided into 5 rounded segments. Filaments subulate, unequal, declining, woolly, shorter than the corolla; anthers reniform, compressed. Germen roundish; style filiform, slightly swelling upwards, declining, rather longer than the stamens; stigma obtuse. Capsule ovate, 2-celled, 2-valved; partition double, frequently incomplete. Seeds numerous, minute, angular, covering the ovate or globose central receptacle. — Name altered from *barbascum*, which is derived from *barba*, a beard. 117.

1. **V. Thap'sus.** L. *Great Mullein.* Leaves decurrent, woolly on both sides; stem simple; spike dense.——*Root* fusiform: stem erect, three or four feet high, woolly: flowers nearly sessile, in a large spike or raceme, large, golden yellow. Biennial: flowers in July and August: grows in waste ground, in sandy or gravelly soil: frequent. *Eng. Bot.* vol. viii. pl. 549. *Eng. Fl.* vol. i. p. 309. 329.

2. **V. Lychni'tis.** L. *White Mullein.* Leaves oblong, inclining to wedge-shaped, nearly smooth on their upper side; stem angular, panicled.—— *Stem* erect, about three feet high, woolly: flowers stalked, rather small, cream-coloured. Biennial: flowers in July and August: grows in waste places: very rare. Isle of Wight and near Truro. *Eng. Bot.* vol. i. pl. 58. *Eng. Fl.* vol. i. p. 310. 330.

3. **V. pulverulen'tum.** Vill. *Yellow Hoary Mullein.* Leaves ovate, obscurely serrate, covered on both sides with mealy wool; stem round, panicled.——*Stem* from three to five feet high, leafy, woolly: flowers bright yellow, stalked. Biennial: flowers in July:

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grows in waste places: rare. Common in Norfolk, Suffolk, Surrey, and Hampshire. *Eng. Bot.* vol. vii. pl. 487. *Eng. Fl.* vol. i. p. 311. 331.

4. **V. ni'grum.** L. *Black Mullein.* Leaves cordate, stalked, waved, crenate, slightly downy; stem angular; raceme spiked.——*Stems* two or three feet high, leafy: flowers bright yellow: stamens covered with purple hairs. Perennial: flowers in July and August: grows in waste places: frequent in England; rare in Scotland, and not indigenous there. *Eng. Bot.* vol. i. pl. 59. *Eng. Fl.* vol. i. p. 312. 332.

5. **V. virga'tum.** With. *Large-flowered Primrose-leaved Mullein.* Leaves broadly lanceolate, toothed, sessile; root-leaves downy, somewhat lyre-shaped; stem branched; flowers aggregate, partly stalked.——*Stem* five or six feet high, winged: flowers large, bright yellow. Biennial: flowers in August: grows in fields and waste places in England and Wales: rather rare. *Eng. Bot.* vol. viii. pl. 550. *Eng. Fl.* vol. i. p. 313. 333.

6. **V. Blatta'ria.** L. *Moth Mullein.* Leaves embracing the stem, oblong, smooth; stem branched above, each branch terminating in a simple cluster; flower-stalks longer than the bracts.——*Stem* three or four feet high, erect, leafy, smooth, flowers yellow, stained with brown at the back. Annual: flowers in July: grows in gravelly soil in the south of England: rare. *Eng. Bot.* vol. vi. pl. 393. *Eng. Fl.* vol. i. p. 313. 334.

22. A'TROPA. Linn. DEADLY NIGHT-SHADE.

Calyx inferior, permanent, deeply divided into 5 acute, somewhat unequal segments. Corolla campanulate; the tube very short; the limb tumid, ovate, longer than the calyx, with 5 shallow, nearly equal, marginal segments. Filaments subulate, spreading and curved above, nearly as long as the corolla. Germen ovate, with a gland beneath. Style filiform, inclining upwards, as long as the corolla; stigma knobbed. Berry globose, with 2 lateral furrows, 2-celled. Seeds numerous, reniform, attached in each cell to a fleshy receptacle fixed to the partition.—Named after *Atropos*, one of the Fates. 118.

1. **A. Belladon'na.** L. *Common Deadly Night-shade.* Stem herbaceous; leaves ovate, undivided.——*Stem* three feet high, round, branched, slightly downy; flowers solitary, stalked, dull purple. The whole plant is fetid and poisonous. Children are apt to eat the shining black berries, which have a sweetish taste, but in small quantity produce fatal effects. Perennial: flowers in June: grows in hedges and waste ground: not common. *Eng. Bot.* vol. ix. pl. 592. *Eng. Fl.* vol. i. p. 317. 335.

23. SOLA'NUM. Linn. NIGHT-SHADE.

Calyx inferior, divided into 5 acute, permanent segments. Corolla rotate; tube very short; limb much longer, reflexed, plaited, divided into 5 acute segments. Filaments subulate, short; anthers much longer than the filaments, oblong, angular,

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close together, with two terminal pores. Germen roundish; styles filiform, longer than the stamens, deciduous; stigma obtuse. Berry roundish, glossy, with a terminal scar, 2-celled. Seeds numerous, roundish, compressed, attached to a fleshy receptacle, connected with the partition.—Name doubtful. 119.

1. **S. Dulcama'ra.** L. *Woody Night-shade. Bitter-sweet.* Stem shrubby, undulated, thornless; upper leaves hastate; flowers cymose. ——*Stem* branched, twining: lower leaves cordate or ovate: corolla purple, with two round green spots at the base of each segment: berries oval, scarlet. The root and leaves have been applied to various medicinal uses. The berries are poisonous. A shrub: flowers in June and July: grows in thickets and hedges: frequent. *Eng. Bot.* vol. viii. pl. 365. *Eng. Fl.* vol. i. p. 318. 336.

2. **S. ni'grum.** L. *Common Night-shade.* Stem herbaceous, thornless; leaves ovate, toothed, angular: umbels lateral, drooping. ——*Stem* branched, angular: flowers white: berries globose, black. The whole plant is fetid and narcotic, and has been employed medicinally. The potato belongs to this family, the species of which are generally more or less poisonous. Annual: flowers from June to September: grows in waste places near houses: common in England; rare in Scotland. *Eng. Bot.* vol. viii. pl. 566. *Eng. Fl.* vol. i. p. 319. 337.

24. CONVOL'VULUS. Linn. BINDWEED.

Calyx inferior, small, divided into 5 ovate, permanent segments. Corolla large, campanulate, regular, with 5 plaits and 5 shallow lobes; nectary a gland under the germen. Filaments subulate, half as long as the corolla; anthers sagittate, erect, terminal. Germen roundish; style filiform, as long as the stamens; stigmas 2, spreading. Capsule roundish; seeds large, roundish. This genus has by some been divided into two:—*Convolvulus*, without external bracts to the calyx; *Calystagia*, with 2 large opposite bracts.—Named from *convolvo*, to entwine. 120.

1. **C. arven'sis.** L. *Small Bindweed.* Leaves sagittate; flower-stalks bearing a single flower; bracts minute, remote from the flower.——*Root* creeping, long: stems twining or prostrate, several feet long: flowers rose-coloured, sometimes white. Perennial: flowers in June and July: grows in hedges, on dry banks, in pastures, &c.: common. *Eng. Bot.* vol. v. pl. 312. *Eng. Fl.* vol. i. p. 285. 338.

2. **C. se'pium.** L. *Great Bindweed.* Leaves sagittate; flower-stalks square, bearing a single flower; bracts cordate, close to the flower.——*Roots* long, creeping: stems twining, several feet long: flowers large, white or tinged with rose-colour. Perennial: flowers in July and August: grows in hedges and thickets: frequent. *Eng. Bot.* vol. v. pl. 312. *Eng. Fl.* vol. i. p. 285. 339.

3. **C. Soldanel'la.** L. *Sea Bindweed.* Leaves reniform, fleshy; flower-stalks bearing a single flower, their four angles membranous;

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stems procumbent.——*Root* creeping: stems about two feet long: leaves rather succulent: flowers large, purplish pink-coloured, with pale yellow plaits. Perennial: flowers in June and July: grows in sand on the sea-shore: frequent. *Eng. Bot.* vol. v. pl. 314. *Eng. Fl.* vol. i. pl. 286. 340.

25. POLEMO'NIUM. Linn. GREEK-VALERIAN.

Calyx inferior, cup-shaped, divided into 5 broad segments, permanent. Corolla rotate, with a very short tube, closed at the top by 5 convex, downy valves; the limb flat, with 5 obtuse, equal segments. Filaments capillary, inclining, shorter than the corolla; anthers roundish, erect. Germen ovate, acute, superior; style cylindrical, as long as the stamens; stigma 3-cleft, revolute. Capsule ovate, with three blunt angles, 3-celled, 3-valved. Seeds numerous, triangular.—Named from πολεμος, war. 121.

1. P. cœru'leum. *Common Greek-Valerian. Jacob's Ladder.* Leaves pinnate; flowers erect; root fibrous.——*Stem* from one to two feet high, angular, hollow, leafy, panicled at the top: leaves alternate: flowers numerous, blue. Perennial: flowers in June: grows in bushy places in the north of England and south of Scotland: rare. *Eng. Bot.* vol. i. pl. 14. *Eng. Fl.* vol. i. p. 287. 341.

26. AZA'LEA. Linn. AZALEA.

Calyx inferior, deeply divided into 5 acute, erect segments, permanent. Corolla campanulate, divided half-way into 5 nearly equal segments with inflected margins. Filaments thread-shaped; anthers roundish; germen globose. Style cylindrical, erect, permanent; stigma knobbed. Capsule roundish, with 5 deep furrows, 5-celled, 5-valved. Seeds numerous, roundish. From *azaleos*, parched. 122.

1. A. procum'bens. L. *Trailing Azalea.* The only species.——*A* small shrub growing in tufts: flowers terminal, rose-coloured: branches spreading and procumbent: leaves opposite, revolute, smooth. Flowers in July: grows on dry heathy ground on many of the Highland mountains. *Eng. Bot.* pl. 865. *Eng. Fl.* vol. i. p. 282. 342.

27. VIN'CA. Linn. PERIWINKLE.

Calyx inferior, deeply divided into 5 erect, acute, permanent segments. Corolla salver-shaped; tube longer than the calyx, cylindrical below, dilated and marked with 5 grooves above, 5-sided at the mouth; limb horizontal, deeply divided into 5 oblique, abrupt segments, attached to the top of the tube. Filaments short, first bent inwards and then outwards; anthers membranous, obtuse, erect, incurved, with the pollen at the margin. Germens 2, roundish, accompanied by 2 roundish lateral glands. Style 1, common to both germens, cylindrical, shorter than the tube; stigma knobbed, seated on a round, flat disk. Follicles 2, cylindrical, acute, erect. Seeds several,

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oblong, cylindrical.—Name doubtful: perhaps from *vincio*, to bind. 123.

1. **V. mi'nor.** L. *Lesser Periwinkle.* Stems procumbent; leaves between lanceolate and elliptical, smooth on the margin; flowers stalked; segments of the calyx lanceolate.——*Flowering* branches erect, leafy: flowers solitary, bright blue. Perennial: flowers in May: grows on banks and in hedges: rare: not indigenous in Scotland. *Eng. Bot.* vol. xiii. pl. 917. *Eng. Fl.* vol. i. p. 339. 343.

2. **V. ma'jor.** L. *Greater Periwinkle.* Stems ascending; leaves ovate, fringed; flowers stalked; segments of the calyx linear, elongated.——*Flowers* pale blue, nearly twice the size of those of the former species. Perennial: flowers in May: grows in woods: rare, and not indigenous. *Eng. Bot.* vol. viii. pl. 514. *Eng. Fl.* vol. i. p. 340. 344.

28. SA'MOLUS. Linn. BROOK-WEED.

Calyx inferior; tube hemispherical; margin deeply divided into 5 equal, permanent segments. Corolla funnel-shaped or bell-shaped; tube wide, as long as the calyx; limb with 5 deep, obtuse segments, and 5 small intermediate scales at the base. Filaments subulate, short, arising from the middle of the tube; anthers roundish, 2-lobed, covered by the scales of the corolla. Germen nearly globose, covered by the tube of the corolla; style erect, short; stigma knobbed. Capsule globose, 1-celled, its lower half closely invested by the calyx. Seeds numerous, small, angular, covering the globular, central receptacles.—Name doubtful. 124.

1. **S. Valeran'di.** L. *Common Brook-weed. Water Pimpernel.* Leaves obovate, obtuse; racemes many-flowered; partial flower-stalks, each with a small bract.——*Smooth*, pale-green; stem erect, round, about a foot high: flowers small, white. Perennial: flowers in July: grows in watery places, on gravelly soil: not common. *Eng. Bot.* vol. x. pl. 703. *Eng. Fl.* vol. i. p. 324. 345.

29. JASIO'NE. Linn. SHEEP'S-BIT.

Calyx superior, deeply divided into 5 acute, permanent segments. Corolla rotate, deeply divided into 5 lanceolate, equal segments. Filaments subulate, short; anthers oblong, united at the base. Germen roundish. Style cylindrical, longer than the stamens; stigma cleft. Capsule roundish, with 5 angles, imperfectly 2-celled, opening by a round pore at the top. Seeds numerous, oblong, minute, attached to a globose stalked receptacle.—Name doubtful. 125.

1. **J. monta'na.** L. *Common Sheep's-bit.*——*Root* tapering: stems about eight inches high, generally branched: leaves sessile, oblong, rough: flowers purplish-blue, in round terminal tufts, each tuft surrounded by ovate bracts. Annual: flowers in June and July: grows in dry pastures; frequent. *Eng. Bot.* vol. xiii. pl. 882. *Eng. Fl.* vol. i. p. 297. 346.

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30. PHYTEU'MA. Linn. RAMPION.

Calyx superior, deeply divided into 5 acute, permanent segments. Corolla rotate, deeply divided into 5 linear, acute, recurved segments. Filaments thread-shaped, dilated at the base, much shorter than the corolla; anthers oblong. Germen angular; style cylindrical, curved, longer than the stamens; stigma divided into 2 or 3 spreading segments. Capsule roundish, 2- or 3-celled, with strong ribs. Seeds numerous, small, inversely ovate.—Name signifies merely a plant, φυτευμα. 126.

1. **Ph. orbicula're.** L. *Round-headed Rampion.* Flowers in a roundish head; root-leaves cordate, stem-leaves elliptical, the upper lanceolate.——*Stems* about a foot high, angular, smooth: leaves crenate, the lower ones stalked, the upper sessile: flowers deep-blue. Perennial: flowers in August: grows in pastures, and by road-sides, in the south of England: rare. *Eng. Bot.* vol. ii. pl. 142. *Eng. Fl.* vol. i. p. 296. 347.

2. **Ph. spica'tum.** *Spiked Rampion.* Flowers in an oblong cylindrical spike; root-leaves oblong, heart-shaped at the base, stalked, somewhat doubly serrate; upper leaves and bracts narrow-lanceolate, short, sessile.——*Perennial:* flowers in July: discovered in Sussex, in 1825, by the Rev. Ralph Price, but is probably not indigenous. *Eng. Bot. Suppl.* pl. 2598. *Br. Fl.* 4th ed. p. 101. 348.

31. LOBELIA. Linn. LOBELIA.

Calyx superior, deeply divided into 5 small, nearly regular, permanent segments. Corolla irregular; tube cylindrical, split along the upper side; limb deeply divided into 5 lanceolate segments, the 2 upper small, forming the upper lip, the others more spreading and forming the lower lip. Filaments subulate, as long as the tube, united at the top; anthers united into a cylinder. Germen pointed; style cylindrical, as long as the stamens; stigma knobbed, hairy. Capsule elliptical, angular, with 2 or 3 cells, and as many valves, open at the top; partitions contrary to the valves. Seeds numerous, minute, covering a conical receptacle.—Named after *Matthias Lobel.* 127.

1. **L. Dortman'na.** L. *Water Lobelia.* Leaves linear, entire, with two longitudinal cells; stem nearly leafless.——*Leaves* numerous, mostly from the root: stem solitary, erect, hollow, slightly leafy, terminating in a loose cluster of pale-blue, drooping flowers. Perennial: flowers in July: grows near the margins of lakes, the flowers rising above the water: very common in the Highlands and Hebrides. *Eng. Bot.* vol. ii. pl. 140. *Eng. Fl.* vol. i. pl. 298. 349.

2. **L. u'rens.** L. *Acrid Lobelia.* Stem nearly erect: lower leaves roundish, crenate; upper lanceolate, serrate; clusters terminal.——*Stem* about a foot high, branched, leafy, roughish: flowers pale purplish-blue, downy. Perennial: flowers in August and September: grows on bushy heaths in Devonshire: very rare. *Eng. Bot.* vol. xiv. pl. 953. *Eng. Fl.* vol. i. p. 299. 350.

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32. CAMPANULA. Linn. BELL-FLOWER.

Calyx superior, deeply divided into 5 acute segments, permanent. Corolla bell-shaped, impervious at the base, the limb divided into 5 broad, regular segments. Filaments dilated at the base; anthers linear, compressed. Germen inferior, angular; style thread-shaped, longer than the stamens; stigma oblong, with 3 revolute divisions. Capsule roundish, angular, 3-celled, opening laterally by clefts. Seeds numerous, small.—Name, *campanula*, a little bell. 128.

1. C. rotundifo'lia. L. *Round-leaved* or *Common Bell-flower*. Root-leaves cordate or reniform, serrate; stem-leaves linear, entire. ——*The* root-leaves wither very soon, so that when the plant is in flower, the stem-leaves alone, of which the lower are lanceolate, the upper linear, are to be seen: stem about a foot high: corolla blue. Perennial: flowers in July and August: grows in dry pastures, by road-sides, hedges, &c.: common. This is the *Blue Bell* of the Scotch, sometimes also called the Hair Bell, or Hare Bell. *Eng. Bot.* vol. viii. pl. 866. *Eng. Fl.* vol. i. p. 288. 351.

2. C. pa'tula. L. *Spreading Bell-flower*. Root-leaves oblong-elliptical: stem-leaves narrow, lanceolate, all even, crenate, and roughish; panicle spreading; calyx minutely toothed.——*Stem* two feet high, angular, rough, panicled: flowers fine blue, larger than those of the preceding species, to which it is somewhat allied. Annual: flowers in July and August: grows in pastures, on the borders of fields, and in hedges: rare. Borders of Budden Wood, near Loughborough; in many parts of Worcestershire and Staffordshire; in Norfolk, Surrey, and Kent. *Eng. Bot.* vol. i. pl. 42. *Eng. Fl.* vol. i. p. 290. 352.

3. C. Rapun'culus. L. *Rampion Bell-flower*. Leaves waved, crenate, roughish; root-leaves elliptical; stem angular, hairy below; panicle compact; calyx entire.——*Root* spindle-shaped, white: stem three feet high, leafy, corolla light-blue. The roots, known by the name of *ramps*, are eaten raw, or variously dressed; but are not now much used. Biennial: flowers in July and August: grows about the borders of fields, on hedge-banks, &c.; in Norfolk, Kent, and Surrey: not common, and only naturalized. *Eng. Bot.* vol. iv. pl. 283. *Eng. Fl.* vol. i. p. 290. 353.

4. C. persi'cifolia. L. *Peach-leaved Bell-flower*. Leaves smooth, slightly serrate; root-leaves obovate, stem-leaves narrow, lanceolate, sessile; stem round, smooth, few-flowered.——*Root* creeping: stems about two feet high: flowers very large, fine blue. Perennial: flowers in July. Said to have been found near Cullen, by Mr. G. Don. *Eng. Bot. Suppl.* pl. 2773. *Eng. Fl.* vol. i. p. 291. 354.

5. C. latifo'lia. L. *Giant Bell-flower*. Leaves roughish, ovato-lanceolate; stem simple, rounded; flowers solitary, stalked, erect; fruit drooping.——*Stem* three or four feet high: flowers large, deep blue, sometimes white. Perennial: flowers in July and August: grows in moist woods and thickets: rare in England; not uncommon in Scotland. *Eng. Bot.* vol. v. pl. 302. *Eng. Fl.* vol. i. p. 291. 355.

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6. C. rapunculoi'des. L. *Creeping Bell-flower.* Leaves roughish; root-leaves cordate, crenate, stalked; stem-leaves lanceolate, sessile; flowers unilateral, drooping, forming a terminal cluster.——*Stems* about two feet high: flowers purplish-blue. Perennial: flowers in July and August: grows in woods and fields: rare. Oxfordshire; near Kirkcaldy, Fifeshire, and about Edinburgh. *Eng. Bot.* vol. xx. pl. 1369. *Eng. Fl.* vol. i. p. 292. 356.

7. C. Trache'lium. L. *Nettle-leaved Bell-flower.* Stem angular; leaves stalked, cordate, acutely serrate, bristly as well as the calyx; flower-stalks axillar.——*Stem* two or three feet high: upper leaves lanceolate: flowers large deep blue. Perennial: flowers in July: grows in woods, thickets, and hedges in England: frequent. *Eng. Bot.* vol. i. pl. 12. *Eng. Fl.* vol. i. p. 293. 357.

8. C. glomera'ta. L. *Clustered Bell-flower.* Stem angular, simple; lower leaves ovato-lanceolate, crenate, rough with hairs, those of the stem semi-amplexicaul, ovate, acute; flowers sessile, mostly in a terminal head.——*Stem* about a foot high, erect: flowers deep bluish-purple. Perennial: flowers in July and August: grows in dry pastures: not very common. Mr. Babington says it grows in "dry pastures on limestone." I have seen it on greenstone, basalt, trap tufa, old red conglomerate, sandstone of the Devonian and carboniferous systems, chlorite-slate, and gneiss. In Scotland it is plentiful along the coast, from the Frith of Forth to a little north of Stonehaven. *Eng. Bot.* vol. ii. pl. 90. *Eng. Fl.* vol. i. p. 293. 358.

9. C. hy'brida. L. *Corn Bell-flower.* Stem straight, rough; leaves oblong, crenate; corolla widely spreading, shorter than the calyx.——*Stem* about six inches high: flowers deep-blue. Annual: flowers in August: grows in dry corn-fields in England: frequent. East Lothian and Fife. *Specularia hybrida.* Alph. De. Cand. Bab. *Man.* p. 202. *Eng. Bot.* vol. vi. pl. 375. *Eng. Fl.* vol. i. p. 294. 359.

10. C. hedera'cea. *Ivy-leaved Bell-flower.* Stem feeble, much branched, procumbent; leaves stalked, smooth, heart-shaped, with angular lobes.——*Stems* in loose tufts: flowers pale purplish-blue. Perennial: flowers in July and August: grows in moist shady places: not common. *Wahlenbergia hederacea.* Reich. Bab. *Man.* p. 202. *Eng. Bot.* vol. ii. pl. 73. *Eng. Fl.* vol. i. p. 295. 360.

33. LONI'CERA. Linn. HONEYSUCKLE.

Calyx superior, small, with 5 deep segments. Corolla tubular; tube oblong, bulging at one side; limb deeply divided into 5 revolute segments, one of which is more deeply separated. Filaments subulate, arising from the upper part of the tube; anthers oblong. Germen roundish. Style filiform, as long as the corolla; stigma bluntly knobbed. Berry roundish, with 1 or more cells, its lower half closely invested by the calyx. Seeds several, roundish, compressed.—Named after *Adam Lonicer*, a German botanist. 129.

1. L. Caprifo'lium. L. *Pale Perfoliate Honeysuckle.* Flowers ringent, whorled, terminal; upper leaves confluent and perfoliate. ——*A* twining shrub, with smooth stem and leaves: flowers yellowish, with a reddish tube, six together: berries elliptical, brownish-

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orange. Flowers in May and June: grows in woods and thickets: rare; Oxfordshire and Cambridgeshire. Frequent about Edinburgh. Probably not indigenous. *Eng. Bot.* vol. xii. pl. 799. *Eng. Fl.* vol. i. p. 326. 361.

2. L. Periclymenum. L. *Common Honeysuckle*, or *Woodbine*. Flowers ringent, in imbricated, terminal, ovate heads; leaves all distinct.——*A* twining shrub, well known for the delicious odour of its flowers, which are yellowish or white, with deep red streaks. Flowers in June and July: grows in thickets, hedges, and the clefts of rocks: common, extending to the extreme north of Scotland. *Eng. Bot.* vol. xii. pl. 800. *Eng. Fl.* vol. i. p. 327. 362.

3. L. Xylosteum. L. *Upright Honeysuckle*. Flower-stalks with 2 flowers: berries distinct; leaves entire, downy.——*A* shrub with an erect stem, four or 5 feet high: stalked, ovate, acute leaves: small cream-coloured or reddish flowers, and scarlet berries. Flowers in July: grows in thickets and rocky places: rare; not found in Scotland, and probably not indigenous in England. *Eng. Bot.* vol. xiii. pl. 916. *Eng. Fl.* vol. i. p. 327. 363.

34. RHAMNUS. Linn. BUCKTHORN.

Calyx inferior, funnel-shaped, coloured internally; limb with 5, sometimes 4 acute, equal segments. Petals 5 or 4, small, converging, sometimes wanting. Filaments subulate, short, arising from the mouth of the calyx; anthers roundish, 2-lobed. Germen roundish; style cylindrical, short; stigma with 2, 3, or 4 lobes. Berry roundish, with 2, 3, or 4 cells. Seeds 1 in each cell, rounded on the outer side, flattened on the inner.—Name signifies a branch—ῥαμνος. 130.

1. R. catharticus. L. *Buckthorn*. Thorns terminal; flowers 4-cleft, diœcious; leaves ovate, acutely serrate; stem erect.——*A shrub*, with spreading branches, each ending in a sharp thorn: flowers yellowish green: berries globose, bluish-black. The juice of the unripe berries dyes yellow. When ripe they are nauseous and violently purgative. Flowers in May: grows in thickets and hedges: common in England; rare in Scotland and Ireland. *Eng. Bot.* vol. xxiii. pl. 1629. *Eng. Fl.* vol. i. p. 329. 364.

2. R. Frangula. L. *Alder Buckthorn*. Thorns none; flowers all perfect; leaves entire.——*A shrub*, three or four feet high, with numerous black branches: flowers 5-cleft, whitish: berries dark-purple. The berries before they are ripe dye green. Flowers in May: grows in woods and thickets, in England: frequent. *Eng. Bot.* vol. iv. pl. 250. *Eng. Fl.* vol. i. p. 329. 365.

35. EUONYMUS. Linn. SPINDLE-TREE.

Calyx inferior, deeply divided into 4 or 5 rounded, permanent segments, its base covered with a large fleshy disk. Petals 4 or 5, ovate, erect, shorter than the calyx. Filaments subulate, flat, spreading, longer than the corolla; anthers 2-lobed. Germen pointed; style short, simple; stigma obtuse. Capsule succulent, coloured, 5-sided, 5-cornered, 5-celled, 5-valved.

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Seeds ovate, solitary, enveloped in a succulent coat.—Named after *Euonyme*, the mother of the Furies. 131.

1. **E. Europæ'us.** L. *Spindle-tree. Prickwood.* Flowers mostly 4-cleft; branches smooth; leaves ovate, pointed, serrate.——*A shrub* or small tree, with green smooth bark: flowers small, greenish-white, the first only 5-cleft: the fruit is violently emetic and purgative. Flowers in May: grows in hedges and thickets: frequent in England and Ireland; rare in Scotland. *Eng. Bot.* vol. vi. pl. 362. *Eng. Fl.* vol. i. p. 330. 366.

36. IMPA'TIENS. Linn. TOUCH-ME-NOT.

Calyx inferior, small, of 2 roundish, concave, unequal, deciduous sepals. Corolla of 5 unequal petals; the upper roundish, flat, erect, 3-cleft, forming the upper lip; the 2 lower very large, reflexed, obtuse, irregular, forming the lower lip; the middle 2 opposite, at the base of the upper lip, sometimes wanting; nectary of 1 leaf, tubular, oblique at the mouth, the upper edge of which is attached to the receptacle, tapering at the base into a curved spur. Filaments very short, incurved; anthers united at the base. Germen ovate, pointed; style none; stigma undivided, short. Capsules ovate, 5-celled, 5-valved. Seeds oval, attached to a central column.—So named because the capsule, impatient of being touched, opens when handled. 132.

1. **Noli-me-tangere.** L. *Touch-me-not. Yellow Balsam.* Flowers on branched axillar stalks; leaves ovate, serrate, stalked; joints of the stem swelling.——*Stem* a foot high, rounded, succulent, brittle: flowers large, yellow, internally spotted with red. Annual: flowers in July and August: grows in watery places in the north of England, but is not indigenous. *Eng. Bot.* vol. xiv. pl. 937. *Eng. Fl.* vol. i. p. 300. 367.

37. VI'OLA. Linn. VIOLET.

Calyx inferior, of 5 oblong, erect, permanent sepals, produced downwards beyond their insertion; 2 of them under the uppermost petal, 1 under each of the lateral petals, and 1 under the 2 lower. Corolla irregular, of 5 unequal petals; the uppermost broadest, slightly cleft, directed downwards, terminating at the base, in a curved spur, projecting between the leaves of the calyx; 2 lateral petals opposite, equal, obtuse, straight; 2 lower equal, larger and directed upwards. Filaments very small; anthers broad, close together, obtuse, each with a membranous point. Germen superior, roundish; style filiform, extending beyond the anthers; stigma oblique. Capsule subovate, 1-celled, 3-valved. Seeds several in each cell, ovate, attached to a linear receptacle in the middle of each valve.—Name of doubtful origin. 133.

1. **V. hir'ta.** L. *Hairy Violet.* Leaves cordate, rough with hairs, as well as their stalks; sepals obtuse; lateral petals with a hairy central line.——*Stipules* lanceolate; flowers solitary, light grayish blue, streaked with black. Perennial: flowers in April:

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grows in woods and pastures: common in England; rare in Scotland. *Eng. Bot.* vol. xiii. pl. 894. *Eng. Fl.* vol. i. p. 302. 368.

2. **V. odora'ta.** L. *Sweet Violet.* Root throwing out creeping runners; leaves cordate, nearly smooth, as well as their stalks; sepals obtuse; lateral petals with a hairy central line.——*Stipules* lanceolate, toothed: flowers deep purplish-blue, scented. A variety with white flowers, often wanting the hairs on the lateral petals, is *V. imberbis,* of Leighton. There are several varieties as to the colours of the flowers, they being deep-purple, reddish, purple, lilac, or white. Perennial: flowers in March and April: grows in woods and pastures; frequent in England; rare in Scotland, and probably not indigenous there. *Eng. Bot.* vol. ix. pl. 619. *Eng. Fl.* vol. i. p. 302. 369.

3. **V. palus'tris.** L. *Marsh Violet.* Leaves reniform, smooth; root creeping; spur very short; lateral petals without a central hairy line.——*Stipules* ovate, nearly entire: flowers drooping, very pale blue, with purple streaks. Perennial: flowers in April. grows in bogs and wet mossy ground: frequent. *Eng. Bot.* vol. vii. pl. 444. *Eng. Fl.* vol. i. p. 303. 370.

4. **V. cani'na.** L. *Dog Violet.* Primary stem short and flowerless: lateral stems numerous, ascending, simple; leaves cordate, more or less acute; stipules narrow-lanceolate, dentato-ciliate, much shorter than the petioles; sepals acuminate.——*Root* rather woody, with numerous long fibres; stem very short, but sending off angulate branches shooting up to the height of from two to six inches or more; leaves thin, cordate, crenate, generally acute, with oblong-lanceolate, toothed stipules; flowers large, with narrow-lanceolate, acute sepals; blue petals with purple lines at the base, the spur abrupt, greenish-white: anthers whitish, tipped with orange: capsule ovate, trigonal, obtuse, apiculate. It varies considerably, and has accordingly been divided into species; but authors have so confounded them, that I must decline confounding the student with an attempt to state their opinions. The plant I mean is common in woods, pastures, rocky places, and heaths or sandy ground. In the latter it is *V. flavicornis* of Smith. *Eng. Bot.* vol. ix. pl. 620. *Eng. Fl.* vol. i. p. 304. 371.

5. **V. lac'tea.** Sm. *Cream-coloured Violet.* Stem round; leaves ovato-lanceolate; stipules toothed, bracts lanceolate; acute.——*Flowers* bluish-white, with purplish streaks. Perennial: flowers in May: grows in hilly pastures; rare. *Eng. Bot.* vol. vii. pl. 445. *Eng. Fl.* vol. i. p. 304. 372.

6. **V. tri'color.** L. *Pansy Violet. Heart's-ease.* Stem angular, branched, spreading; leaves oblong, deeply crenate; stipules lyre-shaped, pinnatifid.——*Stem* about six inches high, usually branched, sometimes simple: flowers varying greatly in size and colour: frequently they are shorter than the calyx, and pale-coloured. This variety, which presents great differences, and graduates into the others, is generally named *arvensis.* Annual: flowers through the summer and autumn: grows in loose soil: common. *Eng. Bot.* vol. xviii. pl. 1287. *Eng. Fl.* vol. i. p. 306. 373.

7. **V. lu'tea.** Huds. *Yellow Pansy.* Stem angular, unbranched, erect, decumbent at the base; leaves broadly oblong, crenate,

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fringed; stipules lobed, palmate.——*Stem* three or four inches high: flowers very large, generally yellow, sometimes purple. Perennial: flowers from May to September: grows in hilly pastures: common. *Eng. Bot.* vol. xi. pl. 721. *Eng. Fl.* vol. i. p. 307. It is extremely probable that *V. tricolor* and *V. lutea* are the same species. A variety with the petals all purple, has been called *V. amœna.* 374.

38. RI'BES. Linn. CURRANT.

Calyx superior, tumid, permanent, with 5 oblong spreading, marginal segments. Petals 5, small, obtuse, erect, from the edge of the calyx. Filaments subulate, short, erect, arising from the calyx; anthers compressed, 2-lobed. Germen roundish, style cleft; stigma obtuse. Berry globose, dimpled, 1-celled, with 2 lateral, longitudinal receptacles. Seeds numerous; roundish, somewhat compressed.—Name given by mistake, it having been applied by the Arabian physicians to a different plant. 134.

* *Without prickles.*

1. **R. ru'brum.** L. *Common Currant.* Racemes smooth, pendulous; flowers nearly flat; petals obcordate.——*A bushy* shrub, with a smooth deciduous cuticle: racemes simple: petals greenish-white: berries globose, red. Flowers in May: grows in woods and thickets, but seldom, if ever, truly wild. Isle of Isla, according to Lightfoot; banks of the Tees. *Eng. Bot.* vol. xviii. pl. 1289. *Eng. Fl.* vol. i. p. 331. A variety, with racemes somewhat hairy, when in flower erect, when in fruit pendulous, grows in woods in Durham, and near Airly Castle. *Eng. Bot.* vol. x. pl. 705. *R. petræ'um, Rock Currant, Eng. Fl.* vol. i. p. 332. Another variety, called by some *R. spicatum, Acid Mountain Currant,* has the racemes erect, with nearly sessile flowers. It grows near Richmond, Yorkshire. *Eng. Bot.* vol. xviii. pl. 1290. *Eng. Fl.* vol. i. p. 332. 375.

2. **R. alpi'num.** L. *Tasteless Mountain Currant.* Racemes erect, both in flower and in fruit; bracts longer than the flowers; leaves shining on the back.——*A shrub,* with erect branches, greenish, sometimes diœcious flowers, and scarlet, insipid berries: flowers in May: grows in thickets; rare. *Eng. Bot.* vol. x. pl. 704. *Eng. Fl.* vol. i. p. 333. 376.

3. **R. ni'grum.** L. *Black Currant.* Clusters hairy, pendulous, with a separate single-flowered stalk at the base of each; flowers bell-shaped; leaves glandular.——*A shrub,* with erect branches, pale-green flowers, and globular, black berries. According to Dr. Withering, the petals sometimes change into stamens: the leaves are astringent, as are the berries in a slight degree, on which account they are used for sore throats. Flowers in May: grows in wet hedges and on the banks of rivers; frequent. *Eng. Bot.* vol. xviii. pl. 1291. *Eng. Fl.* vol. i. p. 333. 377.

** *Furnished with prickles.*

4. **R. Grossula'ria.** L. *Common Gooseberry.* Branches with prickles under the buds, otherwise smooth; flowers bell-shaped, on simple drooping stalks; segments of the calyx reflexed, shorter

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than the tube.——*A bushy* shrub, with 3-lobed leaves, greenish flowers, and green berries, rough with scattered hairs. The uses to which the berries of this and other species of the genus are applied, are so generally known, that it is unnecessary to describe them. The Gooseberry, in particular, is in several respects the best "fruit" that Britain produces. Flowers in May: grows in hedges, thickets, waste ground, and on old buildings, but scarcely native. *Eng. Bot.* vol. xxix. pl. 2057. *Eng. Fl.* vol. i. p. 334. 378.

39. HE'DERA. Linn. IVY.

Calyx very small, of 5 teeth, surrounding the germen. Petals 5, oblong, spreading. Filaments subulate, erect, as long as the petals; anthers cleft at the base. Germen turbinate, surrounded by the ring-like receptacle of the flower. Style very short; stigma simple. Berry globose, 1-celled. Seeds from 3 to 10, large, oblong, convex on the outer, angular on the inner side.—Name doubtful. 135.

1. **H. He'lix.** L. *Common Ivy.* Leaves with five angular lobes, those of the flowering branches ovate.——*Stem* branched, climbing and clinging by small lateral fibres: leaves coriaceous, tough, shining: flowers in umbels: berries black. A shrub; flowers in October: grows in woods and hedges, on the ground, trees, old buildings, and rocks: common. *Eng. Bot.* vol. xviii. pl. 1267. *Eng. Fl.* vol. i. p. 335. 379.

40. GLAUX. Linn. SEA MILKWORT.

Perianth coloured, bell-shaped, deeply divided into 5 obtuse, spreading, recurved, permanent segments. Filaments subulate, erect, as long as the perianth. Stigma knobbed. Capsule globose, pointed, 1-celled, 5-valved. Seeds 5, roundish, attached to a large, globular central receptacle, marked with pits.—Named from γλαυκος, gray. 136.

1. **G. mari'tima.** L. *Sea Milkwort. Black Saltwort.*——*Root* of long fibres: stem from two to eight inches high, erect, branched, smooth: leaves oblong, smooth, fleshy: flowers axillar, solitary, flesh-coloured. Perennial: flowers in June and July: grows on the sea-shore, in muddy, sandy, and stony places: common. *Eng. Bot.* vol. i. pl. 13. *Eng. Fl.* vol. i. p. 337. 380.

41. ILLE'CEBRUM. Linn. KNOT GRASS.

Perianth of 5 coloured, cartilaginous, permanent leaves. Filaments capillary, shorter than the calyx, with 5 intermediate scales or bristles; anthers simple. Germen ovate, acute; style short; stigmas 2, obtuse. Capsule roundish, pointed at both ends, 1-celled, 5-valved. Seeds solitary, oval, pointed at both ends, filling the capsule.—Named from *illecebra*, an enticement. 137.

1. **I. verticilla'tum.** L. *Whorled Knot-grass.* Flowers in whorls, without bracts; stems procumbent.——*Leaves* small, ovate, acute: flowers small, white or reddish. A small plant, with spreading and procumbent stems. Perennial: flowers in July: grows in marshy ground in Cornwall and Devonshire. *Eng. Bot.* vol. xiii. pl. 895. *Eng. Fl.* vol. i. p. 336. 381.

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42. THE'SIUM. TOAD-FLAX.

Perianth superior, internally coloured, divided half way into 5 spreading segments, permanent. Filaments subulate, erect, short; anthers roundish. Germen roundish, ribbed; style filiform, as long as the stamens; stigma cleft. Drupe oblong, angular, dry, leathery, crowned by the closed perianth; nut roundish.—Name doubtful. 138.

1. T. linophyl'lum. L. *Flax-leaved* or *Bastard Toad-flax.* Racemes branched; bracts 3 together; leaves lanceolate, inclining to linear; tube of the perianth very short.——*Stem* spreading, angular, from three to five inches high: calyx whitish, irregularly notched between the segments. Perennial: flowers in July: grows in elevated pastures in England: rare. *Thesium humifusum,* De Cand. *Eng. Bot.* vol. iv. pl. 247. *Eng. Fl.* vol. i. p. 338. 382.

2. T. hu'mile. Vahl. *Erect Toad-flax.* "Racemes spiked; flowers nearly sessile; fruit strongly ribbed and reticulated, sessile, crowned with a very short inflexed perianth; leaves fleshy, linear, 1-nerved. *R. Icon.* f. 947. Fruit 4 or 5 times as long as the persistent inflexed perianth. Middle bract much longer than the flowers.—I gathered two specimens of this plant somewhere near Dawlish, in Devonshire, in 1829. P. vii. viii. E." Babington, *Manual,* p. 278. 383.

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43. GENTIA'NA. Linn. GENTIAN.

Calyx inferior, divided into 5, sometimes 4, oblong, acute, permanent segments. Corolla tubular in its lower part, the limb deeply divided into 5, sometimes 4, equal segments. Filaments 4 or 5, subulate, shorter than the corolla; anthers oblong. Germen oblong, nearly cylindrical, pointed, styles short, erect; stigmas flat. Capsule oblong, or elliptical, cylindrical, pointed, slightly cleft, 2-valved, 1-celled. Seeds numerous, small, compressed, attached to the inflexed edges of the valves.—Named after *Gentius,* a king of Illyria. 139.

1. G. Pneumonan'the. L. *Marsh Gentian.* Corolla campanulate, 5-cleft; flowers stalked; leaves linear.——*Stems* simple, square, from four to ten inches high: leaves sessile, obtuse: flowers large, few on each stem: corolla deep-blue, with 5 broad, pale-greenish lines. Perennial: flowers in August and September: grows in moist pastures and marshes in Norfolk and the north of England: not common. *Eng. Bot.* vol. i. pl. 20. *Eng. Fl.* vol. ii. p. 27. 384.

2. G. ver'na. L. *Spring Gentian.* Corolla salver-shaped, crenate, 5-cleft; segments lobed at the base; leaves ovate, crowded. ——*Stems* short, each bearing a single blue flower. Perennial: flowers in April: grows in mountainous pastures: rare. Found in Teesdale Forest abundantly, by the Rev. J. Harriman, and Mr. Oliver, and in various parts of Ireland. *Eng. Bot.* vol. vii. pl. 493. *Eng. Fl.* vol. ii. p. 29. 385.

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3. G. niva'lis. L. *Small Alpine Gentian.* Corolla funnel-shaped, 5-cleft, with notched intermediate segments; branches alternate, 1-flowered.——*Stem* erect, from one to four inches high, bearing from 2 to 10 flowers: leaves small, elliptical, acute: corolla bright-blue, with a greenish tube. Annual: flowers in August: Ben Lawers, Clova, Canlochain. *Eng. Bot.* vol. xiii. pl. 896. *Eng. Fl.* vol. ii. p. 30. 386.

4. G. Amarel'la. L. *Autumnal Gentian.* Corolla salver-shaped, 5-cleft, bearded at the mouth; calyx with 5 equal segments.——*Stem* from 6 inches to a foot high, square, erect, panicled, bearing numerous purplish-blue flowers. Annual: flowers in August and September: grows in pastures: not common. *Eng. Bot.* vol. iv. pl. 236. *Eng. Fl.* vol. ii. p. 30. 387.

5. G. campes'tris. L. *Field Gentian.* Corolla salver-shaped, 4-cleft, bearded at the mouth; 2 outer segments of the calyx ovate, very large.——*Stem* from two to six inches high, with ovate acute leaves, and purplish-blue flowers. Annual: flowers in September and October: grows in dry pastures: common in Scotland. *Eng. Bot.* vol. iv. pl. 237. *Eng. Fl.* vol. ii. p. 31. 388.

44. CUS'CUTA. Linn. DODDER.

Calyx inferior, cup-shaped, deeply divided into 5, sometimes 4, broad, permanent segments, its base fleshy. Corolla with an elliptical tube, the limb divided into 5, sometimes 4, deep, spreading, equal segments. Filaments 5 or 4, subulate, erect, shorter than the corolla, sometimes with a scale at the base; anthers roundish, 2-lobed. Germen roundish; styles 2, sometimes 1 or 3, shorter than the corolla, spreading; stigma simple or knobbed. Capsule membranous, elliptical, 2-celled. Seeds 2 in each cell, large, inversely ovate, erect.—Name supposed from the Arabic *Keshout.* 140.

1. C. Europæ'a. L. *Greater Dodder.* Heads of many flowers, bracteated; stamens without a scale at the base; styles included; corolla with a cylindrical tube longer than the close-pressed calyx. ——*Parasitic* on nettles, thistles, flax, and other plants: stem long, threadlike, red, branched, twining: flowers in dense round heads, pale-coloured. Annual: flowers in August and September: not frequent. *Eng. Bot.* vol. vi. pl. 378. *Eng. Fl.* vol. ii. p. 24. 389.

2. C. epili'num. Weihe. *Flax Dodder.* Heads of about 5 fleshy flowers, bracteated; styles included; corolla with a rounded tube scarcely longer than the spreading, bell-shaped calyx.——*Parasitic* on flax: distinguished from the preceding by the flowers being fewer in a head, and much more fleshy. Annual: flowers in August and September: discovered by Mr. J. E. Bowman at Ellesmere, on flax, among which it is supposed to have been introduced from the continent. *Eng. Bot. Suppl.* pl. 2850. 390.

3. C. epithy'mum. L. *Lesser Dodder.* Heads of many small flowers, bracteated; stamens with a notched scale at the base; styles projecting from the flower; corolla with a straight tube, shorter than the funnel-shaped calyx.——*Parasitic* on furze, heath, thyme, and other plants: stem threadlike, twisted: flowers white. Whole

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plant smaller than the two preceding. Annual: flowers in July and August: frequent. *Eng. Bot.* vol. i. pl. 55. *Eng. Fl.* vol. ii. p. 25. 391.

4. **C. Trifo'lii.** Bab. *Clover Dodder.* "Clusters of flowers bracteated, sessile; tube of the corolla cylindrical; scales converging; half as long as the tube of the corolla; fimbriated and rounded at the end, distant below with rounded spaces; calyx narrowed below, as long as the tube of the corolla." Bab. Annual. Parasitic upon clover chiefly: flowers from July to September. 392.

45. BETA. Linn. BEET.

Perianth deeply divided into 5 oblong segments, fleshy at the base, permanent. Filaments awl-shaped, as long as the calyx; anthers roundish, 2-lobed. Germen sunk in the calyx below the receptacle of the flower, round, depressed; styles 2, sometimes 3, very short; stigmas acute. Utricle curved, imbedded in the fleshy mass of the calyx, and covered by its segments.—Name from the Celtic *bayd* or *biadh*, food. 141.

1. **B. mari'tima.** L. *Sea Beet.* Stems procumbent; flowers in pairs.——*Root* thick and fleshy: stems angular, flowered, from one to two feet long: leaves deep-green: flowers green, sessile, axillar. Perennial: flowers in August: grows on the sea-shore, in England, and the south of Scotland: not common. *Eng. Bot.* vol. iv. pl. 285. *Eng. Fl.* vol. ii. p. 17. 393.

46. CHENOPO'DIUM. Linn. GOOSE-FOOT.

Perianth inferior, deeply divided into 5 ovate, concave, permanent segments, membranous at the edges. Filaments subulate, as long as the perianth; anthers roundish, 2-lobed. Germen round, depressed; styles short; stigmas obtuse. Utricle round, flattened, enveloped by the permanent, 5-cornered perianth.—Named from χην, a goose, and πους, a foot. 142.

* *Leaves angular.*

1. **Ch. Bo'nus Henr'icus.** *Mercury Goose-foot. Good King Henry.* Leaves triangular, sagittate or hastate, entire; spikes terminal and axillar, compound, leafless.——*Root* fleshy, branched: stems about a foot high, furrowed, leafy. Perennial: flowers in May and June: grows in waste ground, and by roads, near houses: frequent. *Eng. Bot.* vol. xv. pl. 1033. *Eng. Fl.* vol. ii. p. 10. 394.

2. **Ch. ur'bicum.** L. *Upright Goose-foot.* Leaves triangular, toothed; spikes very long, straight, approaching the stem, nearly leafless.——*Root* fibrous: stem erect, two feet high, angular, furrowed: leaves stalked: spikes axillar and terminal, erect, shorter than the leaves: fruit 5 times as large as that of the following species. Annual: flowers in August and September: grows on dunghills and waste places: common in England. *Eng. Bot.* vol. x. pl. 717. *Eng. Fl.* vol. ii. p. 10. *Chenopodium intermedium.* Mest. and Koch. 395.

3. **Ch. ru'brum.** Leaves triangular, somewhat diamond-shaped, deeply toothed and sinuate; spikes erect, compound, leafy; seeds

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very minute, shining.——*Of* a darker green than the last species: stems reddish: from one to two feet high. Annual: flowers in August and September: grows on dunghills and waste ground: common in England. *Eng. Bot.* vol. xxiv. pl. 1721. *Eng. Fl.* vol. ii. p. 11. 396.

4. **Ch. botryoi'des.** Sm. *Many-clustered Goose-foot.* Leaves triangular, somewhat toothed, the upper ones bluntish; spikes erect, compound, leafy; seeds enveloped in the loose thin utricle.——*Stems* spreading or prostrate: leaves fleshy, frequently red. Annual: flowers in August and September: grows in sandy places near Yarmouth and at Lowestoft. *Eng. Bot.* vol. xxxii. pl. 2247. *Eng. Fl.* vol. ii. pl. 11. 397.

5. **Ch. mura'le.** L. *Nettle-leaved Goose-foot.* Leaves ovate, acute, toothed, shining; spikes panicled, cymose, leafless.——*Stems* erect, much branched: the whole plant of a darkish-green, and fetid. Annual: flowers in August and September: grows in waste ground, about old walls: common; but not found in Scotland. *Eng. Bot.* vol. xxiv. pl. 1722. *Eng. Fl.* vol. ii. p. 12. 398.

6. **Ch. hy'bridum.** L. *Maple-leaved Goose-foot.* Leaves cordate, angulate, pointed, with broad angular teeth; spikes panicled, cymose, divaricate, leafless.——*Stem* rather slender, branched: the whole plant bright-green, and fetid. Annual: flowers in August: grows in waste places: not common. *Eng. Bot.* vol. xxvii. pl. 1919. *Eng. Fl.* vol. ii. pl. 12. 399.

7. **Ch. al'bum.** L. *White Goose-foot.* Leaves mealy, ovate, inclining to diamond-shaped, jagged, entire at the base, the upper oblong, entire; spikes branched, somewhat leafy; seed smooth.——*Stem* branched, furrowed: the whole plant mealy. When the plant is destitute of mealiness, the leaves green and less angulate, and the spikes more branched and elongated, it is *Ch. viride.* Linn. Annual: flowers in July and August: grows in waste and cultivated ground. *Eng. Bot.* vol. xxiv. pl. 1723. *Eng. Fl.* vol. ii. p. 13. 400.

8. **Ch. ficifo'lium.** Sm. *Fig-leaved Goose-foot.* Leaves sinuate, jagged, somewhat hastate, entire at the base, the upper ones oblong, entire; seed dotted.——*Greener* than the last, and with narrower leaves. Annual: flowers in August and September: grows in waste ground about London and Yarmouth. *Eng. Bot.* vol. xxiv. pl. 1724. *Eng. Fl.* vol. ii. p. 13. 401.

9. **Ch. glau'cum.** L. *Oak-leaved Goose-foot.* Leaves all oblong, deeply waved at the edges, glaucous and mealy beneath; spikes compound, leafless.——*Stems* branched, spreading or prostrate. Annual: flowers in August: grows in waste ground about London. *Eng. Bot.* vol. xxi. pl. 1454. *Eng. Fl.* vol. ii. p. 14. 402.

** *Leaves undivided and entire at the margin.*

10. **Ch. o'lidum.** Curt. *Stinking Goose-foot.* Leaves ovate, inclined to diamond-shaped, entire; spikes dense, leafless.——*Stems* branched, spreading or prostrate: the whole plant grayish-green, mealy, greasy, and exhaling a detestable odour, like that of putrid fish. Annual: flowers in August: grows in waste ground and sand, near the sea: not frequent. *Eng. Bot.* vol. xxi. pl. 1480. *Eng. Fl.* vol. ii. p. 15. 403.

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11. **Ch. polysper'mum.** L. *All-seed Goose-foot.* Leaves ovato-elliptical, obtuse, entire; stem prostrate, cymose, leafless.——*Stem* scarcely branched: leaves stalked, deep grass-green. Annual: flowers in July and August: grows in waste ground: common. *Eng. Bot.* vol. xxxi. pl. 1480. *Eng. Fl.* vol. ii. p. 15. *Ch. acutifolium, Sharp-leaved Goose-foot,* is a variety of this plant, with erect stems and acute leaves. *Eng. Bot.* vol. xxxi. pl. 1481. *Eng. Fl.* vol. ii. p. 15. 404.

47. SCHOBE'RIA. G. A. Meyer. SCHOBERIA.

Perianth deeply divided into 5 segments, without dorsal appendages. Filaments from the receptacle, subulate, as long as the perianth; anthers roundish, 2-lobed. Germen globose, styles 2 or 3. Capsule membranous, covered by the perianth. Seed lenticular, with a double integument, the outer crustaceous. 143.

1. **S. mari'tima.** L. Meyer. *Sea Schoberia.* Leaves semicylindrical, tapering; flowers axillar, sessile.——*Stems* erect, branched, leaves alternate, sessile. Annual: flowers in July and August: grows on the sea-shore: abundant. *Chenopodium maritimum.* Linn. Sm. *Eng. Bot.* vol. ix. pl. 633. *Eng. Fl.* vol. ii. p. 18. *Suæda maritima.* Hook. and Arn. *Brit. Fl.* 352. 405.

2. **S. frutico'sa.** Sm. Meyer. *Shrubby Schoberia.* Shrubby, erect; leaves semicylindrical, bluntish, thornless.——*Stem* three feet high, branched: leaves fleshy, ever-green: flowers green, with 3 membranous bracts under each. Perennial: flowers in July and August: grows on the sea-coast, in the south and south-east of England: rare. *Eng. Bot.* vol. ix. pl. 635. *Salsola fruticosa. Eng. Fl.* vol. ii. p. 19. 406.

48. SAL'SOLA. Linn. SALTWORT.

Perianth deeply divided into 5 rounded, permanent segments, which ultimately have a transverse dorsal appendage. Filaments from a hypogynous ring, subulate, as long as the perianth; anthers roundish, 2-lobed. Germen globose; styles 2, united at the base; stigmas recurved. Capsule ovate, membranous, 1-celled, imbedded in the fleshy base of the calyx. Seed solitary, roundish, large.—Named from *sal,* salt. 144.

1. **S. Ka'li.** L. *Prickly Saltwort.* Herbaceous, decumbent; leaves subulate, thorn-pointed, rough; calyx with a dilated margin.——*Stem* very bushy, with stiff, channelled leaves: flowers solitary, each with 3 leaf-like bracts. Burned, but not in Britain, for the alkaline salts which it contains, and which are used in the manufacture of glass. Annual: flowers in July: grows on the sea-shore, among sand. *Eng. Bot.* vol. ix. pl. 634. *Eng. Fl.* vol. ii. p. 18. 407.

49. HERNIA'RIA. Linn. RUPTURE-WORT.

Calyx inferior, internally coloured, deeply divided into 5 acute, spreading, permanent segments. Corolla of 5 filiform

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petals inserted upon a fleshy disk with the stamens. Filaments subulate, shorter than the calyx; anthers 2-lobed. Germen ovate; styles very short; stigmas pointed. Fruit membranous, 1-celled. Seed solitary, roundish, pointed.—Named from *hernia*, rupture. 145.

1. **H. gla'bra.** L. *Smooth Rupture-wort.* Herbaceous; leaves and calyx smooth or more or less hairy.——*Root* tapering: stems prostrate, much branched: leaves obovate, on short stalks, glabrous or somewhat hairy and ciliate: flowers small, green, in dense clusters. Perennial: flowers in July and August: grows in sandy ground, in the south of England. When the leaves are ciliated, it is the *H. ciliata, Ciliated Rupture-wort*, of some botanists. *Eng. Bot.* vol. iii. pl. 206. *Eng. Fl.* vol. ii. p. 8. 408.

50. UL'MUS. Linn. ELM.

Perianth turbinate, wrinkled, permanent; the limb divided into 5, sometimes 4 or 6, erect segments, internally coloured. Filaments generally 5, subulate, twice as long as the calyx; anthers erect, short, with 4 furrows. Germen oblong, compressed, cleft; styles 2, terminal, spreading, shorter than the stamens; stigmas downy. Capsule membranous, round or oblong, notched at the end, 1-celled, winged. Seed solitary, roundish, slightly compressed. Named from *ulm*, Teutonic. —In this genus I adopt Lindley's species and characters. 146.

1. **U. campes'tris.** L. *Narrow-leaved English Elm.* Leaves rhomboid-ovate, acuminate, wedge-shaped, and oblique at the base, always scabrous above, doubly and irregularly serrate, downy beneath, serratures incurved. Branches wiry, slightly corky; when young, bright brown, pubescent. Fruit oblong, deeply cloven, naked. In hedges and elsewhere. March or April. *Eng. Bot.* vol. xxvii. 1886. 409.

2. **U. subero'sa.** Ehr. Leaves nearly orbicular, acute, obliquely cordate, at the base, sharply, regularly, and doubly serrate; always scabrous above, pubescent below, chiefly hairy in the axillæ. Branches spreading, bright brown, winged with corky excrescences; when young, very hairy. Fruit nearly round, deeply cloven, naked. In hedges. March. *Eng. Bot.* vol. xxxi. 2161. 410.

3. **U. ma'jor.** Smith. Leaves ovato-acuminate, very oblique at the base, sharply, doubly, and regularly serrate; always scabrous above, pubescent below, with dense tufts of white hairs in the axillæ. Branches spreading, bright brown, winged with corky excrescences; when young, nearly smooth. Fruit obovate, slightly cloven, naked. *U. hollandica.* Miller. In hedges. March. *Eng. Bot.* vol. xxxvi. 2542. 411.

4. **U. carpinifo'lia.** Lindl. Leaves ovato-acuminate, coriaceous, strongly veined, simply crenate, serrate, slightly oblique and cordate at the base, shining, but rather scabrous above, smooth beneath.

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Branches bright-brown, nearly smooth. Four miles from Stratford-on-Avon, on the road to Alcester. 412.

5. **U. gla'bra.** Miller. Leaves ovato-lanceolate, acuminate, doubly and evenly crenate-serrate, cuneate and oblique at the base, becoming quite smooth above, smooth or glandular beneath, with a few hairs in the axillæ. Branches bright brown, smooth, wiry, weeping. Fruit obovate, naked, deeply-cloven. β. *glandulosa.* Leaves very glandular beneath. γ. *latifolia.* Leaves oblong, acute, very broad. In woods and hedges; β. near Ludlow; γ. at West Hatch, in Essex. Mr. Forster. March. N.B. To this species the Downton elm and Scampston elm of the nurseries probably belong. *Eng. Bot.* vol. xxxii. 2248. 413.

6. **U. stric'ta.** Lindl. *Cornish Elm.* Leaves obovate, cuspidate, cuneate at the base, evenly and nearly doubly crenate-serrate, strongly veined, coriaceous, very smooth and shining above, smooth beneath, with hairy axillæ. Branches bright brown, smooth, rigid, erect, very compact. β. *parvifolia.* Leaves much smaller, less oblique at the base, finely and regularly crenate, acuminate rather than cuspidate. In Cornwall and North Devon; β. the less common. 414.

7. **U. monta'na.** Bauh. *Witch Elm.* Leaves obovate, cuspidate, doubly and coarsely serrate, cuneate and nearly equal at the base, always exceedingly scabrous above, evenly downy beneath. Branches not corky, cinereous, smooth. Fruit rhomboid, oblong, scarcely cloven, naked. *U. campestris.* Willd. *U. effusa.* Sibth., not of others. *U. nuda.* Chr. *U. glabra,* Hudson, according to Smith. N.B. Of this the Giant elm and the Chichester elm of the nurseries are varieties. *Eng. Bot.* vol. xxvii. 1887. 415.

51. ERYN'GIUM. Linn. ERYNGO.

Flowers aggregate. Common receptacle conical, scaly, many-flowered, each flower having an acute, simple, or 3-cleft scale. Calyx of each flower superior, of 5 pointed, equal, erect sepals. Petals 5, equal, oblong, channelled, taper-pointed, inflexed above the middle. Filaments capillary, straight, longer than the corolla; anthers roundish. Germen oblong, covered with erect chaffy scales or bristles. Styles filiform, straight, nearly erect, shorter than the stamens; stigmas simple. Fruit obovate, bristly, separable into 2 parts. Seeds oblong, nearly cylindrical, coated.—Name ερυγγιον of Dioscorides. 147.

1. **E. mari'timum.** L. *Sea Eryngo.* Root-leaves roundish, plaited, thorny; heads of flowers stalked; scales of the receptacle 3-cleft.——*Root* long, cylindrical: stem a foot high, round, branched: petals bright-blue. The roots are considered stimulating and restorative. Perennial: flowers in July and August: grows in sand on the sea-shore. *Eng. Bot.* vol. x. pl. 718. *Eng. Fl.* vol. ii. p. 35. 416.

2. **E. campes'tre.** L. *Field Eryngo.* Root-leaves twice or thrice pinnatifid; scales of the receptacle undivided.——*More* bushy and

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slender than the last: petals purplish. Perennial: flowers in July and August: grows in waste ground, near the sea: very rare: naturalized near Plymouth, and at Lismore, Waterford, Ireland. *Eng. Bot.* vol. i. pl. 57. *Eng. Fl.* vol. ii. p. 35. 417.

52. HYDROCOTYLE. Linn. WHITE-ROT.

Flowers all perfect and regular. Calyx-teeth obsolete. Petals 5, equal, ovate, undivided, spreading. Filaments subulate, spreading, shorter than the corolla; anthers roundish. Germen round, compressed, ribbed, smooth; styles cylindrical, spreading, tumid at the base, shorter than the stamens, permanent; stigmas simple. Fruit round, compressed, crowned with the permanent styles. Carpels tumid, each with 5 prominent angles.—Named from ὕδωρ, water, and κοτυλη, a cup. 148.

1. H. vulga'ris. L. *Common White-rot. Marsh Penny.* Leaves round, shield-shaped, smooth, cleft at the base; umbels somewhat aggregate; flowers nearly sessile.——*Stems* slender, smooth, creeping, with clusters of stalked leaves, and axillar flower-stalks, bearing a simple umbel, with small white flowers. Perennial: flowers in June and July: grows in boggy places, and the edges of lakes and rivulets: common. *Eng. Bot.* vol. xi. pl. 751. *Eng. Fl.* vol. ii. p. 96. 418.

53. SANI'CULA. Linn. SANICLE.

Flowers separated, the central barren, the marginal fertile, without stamens. Calyx superior; of the barren flowers small, 4-leaved, acute; of the fertile larger, nearly equal. Petals of the barren flowers 5, nearly equal, lanceolate, inflexed, channelled, compressed; of the fertile deciduous or wanting. Filaments hair-like, spreading, twice as long as the petals; anthers roundish. Germen roundish, bristly; styles reflexed, awl-shaped, permanent; stigmas acute. Fruit acute, covered with hooked bristles; carpels convex on the outer, flat on the inner side.—Name from *sano*, to heal. 149.

1. S. Europæ'a. L. *Wood Sanicle.* Root-leaves simple; flowers all nearly sessile.——*Stems* about a foot long, ascending, slightly branched: lower leaves palmate, and incised: umbels numerous, in an irregular, compound panicle: flowers cream-coloured, tinged with red. Perennial: flowers in May: grows in woods: common. *Eng. Bot.* vol. ii. pl. 98. *Eng. Fl.* vol. ii. p. 36. 419.

54. CAU'CALIS. Linn. BUR-PARSLEY.

Flowers imperfectly separated, irregular; the outermost fertile. Calyx superior of 5, broad, acute, unequal, permanent leaves. Petals unequal, inversely heart-shaped, with an inflexed point. Filaments subulate, shorter than the corolla; anthers roundish. Germen oblong, bristly; styles subulate, much shorter than the corolla, tumid at the base, permanent; stigmas abrupt. Fruit oblong; carpels 4-ribbed, the ribs covered with ascending, subulate, hooked prickles, flat and

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close on the inner side.—Named from κεω, to lie along, and καυλος, a stem, from its procumbent habit. 150.

1. C. daucoi'des. L. *Small Bur-parsley.* Umbels 3-rayed, without general involucral bracts; partial umbels with 3 bracts, ripening about 3 fruits; leaves repeatedly subdivided.——*Stem* two feet high, deeply furrowed, smooth, hairy at the joints; partial umbels of 2 or 3 fertile flowers with several barren; petals white or reddish. Annual: flowers in June: grows in corn-fields in England: not common. *Eng. Bot.* vol. iii. pl. 197. *Eng. Fl.* vol. ii. p. 41. 420.

2. C. latifo'lia. L. *Great Bur-parsley.* Umbels 3-rayed, with membranous bracts; partial umbels ripening about 5 fruits; leaves pinnate.——*Stem* three feet high, covered with minute prickles: petals bright rose-colour. Annual: flowers in July: grows in corn-fields in England; rare. Abundant in Cambridgeshire. *Eng. Bot.* vol. iii. pl. 198. *Eng. Fl.* vol. ii. p. 41. 421.

55. DAU'CUS. Linn. CARROT.

Flowers separated; the outermost irregular and barren; inner fertile, the central one generally neutral, often coloured. Calyx-teeth obsolete. Petals inversely heart-shaped, with an inflexed point, irregular. Filaments hair-like, spreading, longer than the corolla; anthers oblong. Germen inferior, ovate, bristly, imperfect in the outermost and central flowers; styles thread-shaped, spreading, dilated at the base; stigmas obtuse. Fruit oblong, compressed; carpels with 4 principal ribs, having each a row of flattish, straight or hooked prickles, and rough intermediate ribs; their inner surfaces flat and closely applied.—Name δαυκος, used by Dioscorides, the Greek physician. 151.

1. D. Caro'ta. L. *Wild Carrot.* Bristles of the fruit slender; leaflets pinnatifid, their segments between linear and lanceolate, acute; umbel, having in the centre a solitary coloured flower, when in fruit concave.——*Root* tapering, yellow, sweet, slightly aromatic, bearing no resemblance in taste or colour to the cultivated carrot, which is said to be produced from it; stem from one to two feet high, bristly: umbels terminal, the central flower dark-purple. The roots are eaten by the Hebridians. Biennial: flowers in June and July: grows in pastures and the borders of fields: common. *Eng. Bot.* vol. xvii. pl. 1174. *Eng. Fl.* vol. ii. p. 39. 422.

2. D. mari'timus. With. *Sea-coast Carrot.* Bristles of the carpels flattened; leaflets dilated, fleshy, pinnatifid, with rounded segments; umbels destitute of a central coloured flower, and convex when in seed.——*Smaller* than the former. Biennial: flowers in July and August: grows on the sea-coast, in the south of England, and in Ireland, Galloway and Lismore, Scotland; not common. *Eng. Bot.* vol. xxxvi. pl. 2560. *Eng. Fl.* vol. ii. p. 40. 423.

56. HERA'CLEUM. Linn. COW-PARSNEP.

Inner flowers barren; those of the circumference perfect and fertile. Calyx superior, of 5 small, acute teeth. Petals 5, inversely heart-shaped, with an inflexed point; in the innermost flowers smallest and nearly equal; in the outer much larger,

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irregular, the outer one largest, and the 2 inner smallest. Filaments thread-shaped, longer than the corolla, spreading, a little incurved; anthers roundish. Germen ovate, slightly compressed transversely; styles at first erect, rather short, afterwards flattened, spreading, broad and pyramidal at the base; stigmas obtuse, notched. Floral receptacle undulated, crenate, a little broader than the base of the styles. Fruit inversely heart-shaped, nearly flat, crowned with the floral receptacle and styles. Carpels with 5 ribs; 4 intermediate coloured lines in the interstices; the border narrow, flat. Juncture close, flat, nearly as broad as the seeds.—Named after *Hercules.* 152.

1. **H. Sphondy'lium.** L. *Cow Parsnep. Hogweed.* Leaves pinnate, rough, hairy, leaflets pinnatifid, cut and serrate.——*Stem* about four feet high, branched, furrowed, rough with spreading hairs. One of the most important of our plants as food for domestic animals, although utterly neglected. In cultivation it would certainly yield a vast amount of herbage. The stem is sometimes eaten in the Hebrides. Biennial: flowers in July: grows in hedges, borders of fields and pastures: common. *Eng. Bot.* vol. xiv. pl. 939. *Eng. Fl.* vol. ii. p. 102. 424.

57. ŒNAN'THE. Linn. WATER-DROPWORT.

Flowers more or less separated or imperfect, the outermost very irregular and abortive; the innermost smaller, regular, and producing fruit. Calyx superior, of 5 large, lanceolate, acute, somewhat unequal, permanent leaves. Petals 5, inversely heart-shaped, with inflexed points; in the fertile flowers nearly equal; in those of the circumference very unequal. Filaments thread-shaped, longer than the corolla; anthers small, roundish. Germen oblong, furrowed; styles awl-shaped, tumid at the base; stigmas small, obtuse, recurved. Fruit oblong or subovate, with a spongy or corky bark; carpels with 3 or 5 unequal ribs, and deep, narrow, intermediate furrows; the summit crowned with the permanent calyx and elongated styles. Seeds egg-shaped.—Named from οἶνος, wine, and ἄνθος, flower, from the vinous smell of the blossoms. 153.

1. **Œ. fistulo'sa.** L. *Common Water-dropwort.* Root sending out runners; stem-leaves pinnate, cylindrical, tubular; general bracts hair-like, few, often wanting.——*Stem* erect, two or three feet high, hollow, smooth: root-leaves immersed, doubly pinnate, with wedge-shaped, lobed leaflets. Umbels lateral and terminal; flowers white. Perennial: flowers in July and August: grows in ditches and ponds; common in England, rare in Scotland. *Eng. Bot.* vol. vi. pl. 363. *Eng. Fl.* vol. ii. p. 68. 425.

2. **Œ. Lachena'lii.** L. Gmel. *Parsley Water-dropwort.* Leaflets of the root-leaves wedge-shaped, cleft; of the others entire, flat, linear; general involucral bracts linear, numerous; fruit oblong, without a callosity at the base.——*Stem* two feet high, hollow, striated: root-leaves twice pinnate: stem-leaves simply pinnate: flowers flesh-coloured. Perennial: flowers in July: grows in salt marshes and in watery places near the coast, in England and Scotland; not

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unfrequent. *Œ. pimpinelloides*, Huds. Sm. *Eng. Bot.* vol. v. pl. 347. *Eng. Fl.* vol. ii. p. 69. 426.

3. **Œ. pimpinelloi'des.** L. *Callous-fruited Water-dropwort.* Root of long fibres bearing round or oval knobs beyond their middle; root-leaves bipinnate, with acutely inciso-dentate segments; stem-leaves pinnate, uppermost simple; fruit cylindrical, with an enlarged callous base.——*Stem* from two to three feet high: leaves of the general involucre from 1 to 5 or 6, sometimes none: umbellules close together, forming a compact level-topped umbel. Perennial: flowers in July and August: grows in wet pastures and salt-marshes in the south of England. 427.

4. **Œ. silaifo'lia.** Bieb. *Sulphur-wort, Water-dropwort.* Leaflets all linear, acute; general involucral bracts none.——*Stem* three feet high, erect, solid: flowers white. Perennial: flowers in June: grows in ditches and bogs, in England: not common. *Eng. Bot.* vol. v. pl. 348. *Eng. Fl.* vol. ii. p. 70. *Œ. silaifolia.* Bieb. Hook. and Arn. *Brit. Fl.* p. 167. *Œ. peucedanifolia.* Sibth. 428.

5. **Œ. croca'ta.** L. *Hemlock Water-dropwort.* Leaflets all wedge-shaped, nearly uniform; fruit slender, with small intermediate ribs. ——*Root* of many fleshy knobs: stem branched, furrowed, hollow, from two to four feet high: leaves doubly pinnate: flowers white. The root and stem, when cut, exude a yellowish juice, or a limpid juice becoming yellow. The whole plant is fetid and extremely poisonous. Perennial: flowers in July: grows in watery places, generally by rivulets. *Eng. Bot.* vol. xxxiii. pl. 2313. *Eng. Fl.* vol. ii. p. 71. 429.

6. **Œ. Phellan'drium.** Spr. *Fine-leaved Water-dropwort.* Leaves all uniform, with narrow, wedge-shaped, divaricate segments; fruit ovate, with 5 broad ribs and narrow intermediate furrows.——*Root* spindle-shaped: stem from two to three feet high: flowers white. Perennial: flowers in June and July: grows in rivers and ditches: frequent in England, rare in Scotland. *Eng. Bot.* vol. x. pl. 684. *Eng. Fl.* vol. ii. p. 71. 430.

7. **Œ. fluvia'tilis.** Colem. *River Water-dropwort.* "Stem floating; leaves bipinnate; leaflets simple or pinnatifid, of the submersed leaves cuneate, incised, pellucid, with many parallel nerves; umbels lateral, opposite to the leaves; fruit broadly elliptical." Allied to the last, from which it is distinguished principally by the digitately cut leaflets of its submersed leaves. Perennial: flowers from July to September: grows in streams in the middle and south-eastern parts of England. Colem. *Eng. Bot. Suppl.* pl. 2944. 431.

58. PEUCE'DANUM. Linn. HOG'S FENNEL.

Flowers regular, uniform, separated, the innermost barren. Calyx superior, of 5 acute, permanent teeth. Petals 5, inversely heart-shaped; with inflexed points. Filaments hair-like, spreading, longer than the petals; anthers roundish. Germen oblong; styles small, recurved, tumid at the base; stigmas obtuse, notched. Fruit broadly elliptical, nearly round, compressed, crowned with the calyx and styles; carpels with prominent ribs, the interstices striated, the margin dilated, with

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a flat, entire narrow ring. Juncture broad, flat, close.—Named from πευκη, a pine, and δάνος, a gift. 154.

1. **P. officinale.** L. *Sea Hog's Fennel. Sulphur-wort.* Leaves five times deeply divided into three, with linear, flat leaflets; bracts linear.——*Stem* three feet high: flowers yellow. The roots are fetid and acrid; and the whole plant has a sulphurous smell. Perennial: flowers in June and July: grows in salt marshes in Sussex and Essex: very rare. *Eng. Bot.* vol. xxv. pl. 1767. *Eng. Fl.* vol. ii. p. 99. 432.

2. **P. palustre.** Mœnch. *Marsh Hog's Fennel.* Leaves three times pinnate: leaflets pinnatifid, with linear-lanceolate, acuminate segments; involucres of many persistent lanceolate leaves.——*Stem* erect, four or five feet high: umbels large: flowers numerous, white: involucral leaves deflexed, with membranous margins: the whole plant abounds in a milky acrid juice, becoming brown and resinous on drying. Perennial: flowers from July to September: grows in marshes: rare. *Selinum palustre.* Sm. *Eng. Bot.* vol. iv. pl. 229. *Eng. Fl.* vol. ii. p. 97. 433.

3. **P. ostruthium.** Koch. *Broad-leaved Hog's Fennel. Master-wort.* Lower leaves twice ternate, upper 3-lobed. —— *Root* fleshy: stem from one to two feet high, erect, hollow, striated: umbels of about 40 general rays: flowers small, white. The root is warm and aromatic, and has been used for various purposes. Perennial: flowers in June: grows in various places in Scotland: rare, and not truly wild. *Eng. Bot.* vol. xx. pl. 1380. *Eng. Fl.* vol. ii. p. 78. 434.

59. SILA'US Besser. PEPPER-SAXIFRAGE.

Flowers all perfect and regular. Calyx superior, of 5 minute, spreading teeth. Petals obovate, involute, pointed, equal. Filaments thread-shaped, spreading; anthers roundish. Germen ovate, compressed, ribbed, somewhat bordered; styles short, afterwards elongated, reflexed, flattened, their bases hemispherical; stigmas obtuse. Fruit elliptical, crowned with the calyx and styles; carpels nearly elliptical, flattened with 3 longitudinal, acute ribs; the margin dilated, flat, smooth, entire. Juncture broad, flat, as wide as the seeds.—Name of doubtful origin. 155.

1. **S. pratensis.** Besser. *Meadow Pepper-Saxifrage.* Stem angular; radical leaves 3 or 4 times pinnate; leaflets lanceolate, entire, or bifid; involucre of 1 or 2 leaves; involucels of many leaves.——*Stem* from one to two feet high: leaves mostly radical: flowers pale yellow. Perennial: flowers from June to October: grows in damp meadows and pastures: not unfrequent in England: Oxenford Castle and Kelso, Scotland. *Peucedanum Silaus,* Linn. *Eng. Bot.* pl. 2142. Bab. *Man.* 142. 435.

60. LIGUSTICUM. Linn. LOVAGE.

Flowers all perfect, fertile and regular. Calyx superior, of 5 small, pointed, erect, permanent leaves, broad at the base. Petals 5, elliptical, flattish, with an inflexed point, their base

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narrow. Filaments thread-shaped, spreading, shorter than the corolla; anthers roundish. Germen oblong, abrupt, furrowed; styles at first short, erect, angular, tumid at the base; afterwards a little elongated, spreading; stigmas simple. Fruit oblong, somewhat compressed, crowned with the calyx and styles; carpels oblong, each with 5 longitudinal wings.—Named from *Liguria*, where one species abounds. 156.

1. L. Sco'ticum. L. *Scottish Lovage.* Leaves twice ternate.——*Root* fleshy, tapering. Stem a foot high, striated, smooth: leaves stalked, the uppermost ternate, the leaflets broad, smooth, serrate, entire at the base, dark-green: flowers white, with a reddish tinge. The root is acrid, and is somewhat aromatic. Perennial: flowers in July: grows on the sea-coast: very abundant in Scotland. *Eng. Bot.* vol. xviii. pl. 1207. *Eng. Fl.* vol. ii. p. 82. 436.

61. MEUM. Tourn. SPIGNEL.

Flowers all uniform, perfect and fertile. Calyx obsolete. Petals 5, superior, equal, ovato-lanceolate, with an inflexed point. Filaments threadlike, spreading, incurved, as long as the petals; anthers roundish. Germen ovate, striated, abrupt, a little compressed; styles at first very short, tumid at the base, afterwards a little elongated and recurved; stigmas simple. Fruit elliptical, very slightly compressed, contracted at the summit, and crowned with the styles; carpels convex, with 5 prominent ribs, the interstices nearly flat and even, their juncture nearly as broad as themselves.—Name μεῖον used by Dioscorides. 157.

1. M. Athaman'ticum. Jacq. *Common Spignel. Meu. Bald-Money.* Leaflets all in numerous hair-like segments; general and partial involucral bracts.——*Root* thick and woody, with the fibrous remains of the old leaf-stalks adhering to it: stems from one to two feet high: leaves doubly pinnate: flowers yellowish-white. The whole plant, especially the root, highly aromatic. Perennial: flowers in May and June: grows in hilly pastures in the north of England and the Highlands of Scotland: frequent. *Eng. Bot.* vol. xxxii. pl. 2249. *Eng. Fl.* vol. ii. p. 84. 437.

62. CRITH'MUM. Linn. SAMPHIRE.

Flowers all regular, perfect and fertile. Calyx superior, of 5 small, broad, acute, inflexed, permanent leaves. Petals 5, equal, elliptical, incurved, broad at the base. Filaments thread-shaped, spreading, as long as the corolla; anthers roundish. Germen elliptical, furrowed; styles very short and thick, tumid at the base; stigmas obtuse. Fruit elliptical, crowned by the permanent calyx and styles; carpels oblong, convex, with a thick leathery coat, each with 5 ribs; the interstices narrow, flat.—Named from κριθη, barley, from the shape of the fruit. 158.

1. C. mari'timum. L. *Sea-Samphire.* Leaflets lanceolate, fleshy; bracts ovate.——*Stems* about a foot high, round, leafy: leaves

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twice ternate, with lanceolate, fleshy leaflets: flowers white. The whole plant is glaucous, smooth, fleshy, with a salt aromatic flavour, and is used as a pickle. Perennial: flowers in August: grows on rocks by the sea: not unfrequent in England: rare in Scotland; Solway Firth. *Eng. Bot.* vol. xii. pl. 819. *Eng. Fl.* vol. ii. p. 73. 438.

63. BU'NIUM. Linn. EARTH-NUT.

Flowers all uniform and regular, many of the innermost barren. Calyx obsolete, or of a few small, acute, spreading teeth. Petals equal, obcordate, with an inflexed point. Filaments thread-shaped, spreading, longer than the corolla; anthers roundish. Germen inferior, ovate, ribbed, smooth. Styles awl-shaped, ovate and swelled at the base, spreading, permanent; stigmas obtuse. Fruit ovato-oblong, ribbed, crowned with the partly obsolete calyx, and the permanent styles; carpels each with 3 distant ribs, and intermediate furrows.—Name from βουνος, a hill, where the plant is generally found. 159.

1. **B. flexuo'sum.** With. *Common Earth-nut. Pig-nut.* General involucral bracts scarcely 3; stem tapering and zig-zag at the base; fruit oval, somewhat beaked, the styles erect; leaves thrice pinnatifid, with long acute segments.——*Root* a large irregular tuber: stem about a foot high: flowers white. The root is sweet and eatable. Perennial: flowers in May and June: grows in dry pastures: common. *Eng. Bot.* vol. xiv. pl. 988. 439.

2. **B. Bulbocas'tanum.** L. *Great Earth-nut.* General involucral bracts numerous; stem slightly narrowed below; fruit oblong, with the styles spreading; leaves thrice pinnate, their segments linear, acute.——*Root* a tuber: stem about two feet high: flowers white. Perennial: flowers in June and July: grows in chalky fields in Cambridgeshire and Herts. *Carum Bulbocastanum*, Koch. Hook. and Arnott. *Brit. Fl.* 164. *Eng. Bot. Suppl.* pl. 2862. 440.

64. SI'UM. Linn. WATER-PARSNEP.

Flowers all uniform, and generally perfect. Calyx superior, of 5 small, acute, unequal sepals. Petals 5, equal, inversely heart-shaped, with an inflexed point. Filaments threadlike, spreading, longer than the corolla; anthers roundish. Germen ovate, ribbed; styles cylindrical, spreading, swelling a little at the base, shorter than the petals; stigmas obtuse. Fruit ovate or orbicular, slightly compressed, furrowed, crowned with the permanent styles and withered calyx; the carpels with 5 obtuse ribs. Name from the Celtic *siw*, water, the genus being an aquatic one. 160.

1. **S. latifo'lium.** L. *Broad-leaved Water-parsnep.* Leaves pinnate, with lanceolate, equally serrate leaflets; umbels terminal.——*Stem* from three to six feet high, deeply furrowed, smooth: leaves with the stalks enlarged at the base and embracing the stem: flowers numerous, white, small. Poisonous. Perennial: flowers in June and July: grows in rivers, ditches, and marshes: not common. *Eng. Bot.* vol. iii. pl. 204. *Eng. Fl.* vol. ii. p. 56. 441.

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2. **S. angustifo'lium.** L. *Narrow-leaved Water-parsnep.* Leaves pinnate, with unequally lobed and serrate leaflets; umbels stalked, opposite to the leaves.——*Stem* about a foot high, striated, smooth: petals white, those of the outermost flowers slightly irregular. Poisonous. Perennial: flowers in July and August: grows in ditches and rivulets: common. *Eng. Bot.* vol. ii. pl. 139. *Eng. Fl.* vol. ii. p. 56. 442.

65. SI'SON. Linn. STONE-PARSLEY.

Flowers all uniform, perfect, and regular. Calyx obsolete or bluntly toothed. Petals 5, equal, elliptical, or obcordate, involute at the point. Filaments threadlike, spreading, about half as long as the corolla; anthers roundish. Germen inferior, ovate, striated; styles very short and thick, each with a very large, tumid base; stigmas obtuse, distant. Fruit ovate, compressed, crowned with the permanent, unaltered styles; carpels convex, each with 5 ribs.—Name from *sizun*, a brook, in Celtic. 161.

1. **S. Amo'mum.** L. *Hedge Stonewort. Bastard Stone-parsley.* Leaves pinnate, the upper ternate; umbels erect, of about four general rays; bases of the styles globular.——*Stem* about three feet high, erect, with numerous, slender branches: flowers cream-coloured, all regular. Annual: flowers in August: grows in woods and hedges; in England, not rare. *Eng. Bot.* vol. xiv. pl. 954. *Eng. Fl.* vol. ii. p. 60. 443.

66. HELOSCIA'DIUM. Koch. MARSH-WORT.

Flowers uniform, and generally perfect. Calyx superior, obsolete; corolla of 5 small teeth. Petals ovate, obtuse, with a small tip. Filaments threadlike, spreading, longer than the corolla; anthers roundish. Germen ovate; styles cylindrical, spreading, swelling at the base; stigma obtuse. Fruit ovate or oblong, furrowed; carpels with 5 slender ribs.—Name from ἕλος, a marsh, and σκιάδιον, an umbel. 162.

1. **H. nodiflo'rum.** L. Koch. *Procumbent Marsh-wort.* Leaves pinnate, with ovate and equally serrate leaflets; umbels sessile, opposite to the leaves; stem procumbent.——*Flowers* small, greenish-white, with slightly inflexed petals. Perennial: flowers in July and August: grows in ditches and rivulets; not common. The juice is recommended by Dr. Withering, in cutaneous diseases. Probably a variety of the next. *Eng. Bot.* vol. ix. pl. 639. *Eng. Fl.* vol. ii. p. 57. 444.

2. **H. re'pens.** L. Koch. *Creeping Marsh-wort.* Leaves pinnate, with roundish, deeply-toothed leaflets; stalked, opposite to the leaves; stem creeping.——*Stems* from six to ten inches long: flowers white. Perennial: flowers in August: grows in boggy places: rare. *Sium repens.* Linn. *Eng. Bot.* vol. xx. pl. 1431. *Eng. Fl.* vol. ii. p. 58. 445.

3. **H. inunda'tum.** Koch. *Least Marsh-wort.* Leaves pinnate, with wedge-shaped, cut leaflets; the lower leaves divided into numerous filiform segments.——*Stems* procumbent or floating: umbels

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stalked, opposite the leaves; flowers white, all perfect. Perennial: flowers in May: grows in ditches and pools: common. *Eng. Bot.* vol. iv. pl. 227: *Sison inundatum. Eng. Fl.* vol. ii. p. 58. 446.

67. PETROSELI'NUM. Hoffm. PARSLEY.

Flowers uniform, perfect, and regular. Calyx superior, obsolete. Petals roundish, with a narrow incurved point. Filaments filiform, spreading; anthers roundish. Germen inferior, ovate; styles with a large tumid base; stigmas obtuse. Fruit ovate; carpels with 5 filiform ribs.—Name from πετρος, a stone. 163.

1. P. sati'vum. Hoffm. *Common Parsley.* Leaves tripinnate; leaflets of the lower leaves ovato-cuneate, trifid, toothed; of the upper ternate, lanceolate, entire.——*Biennial:* flowers from June to August: grows on old walls and rocks: not indigenous. *Apium petroselinum.* Linn. 447.

2. P. se'getum. Koch. *Corn Parsley*, or *Stonewort.* Leaves pinnate, with numerous roundish leaflets; umbels drooping, irregular; bases of the styles dilated, depressed.——*Stems* twelve or eighteen inches high, branched, round: flowers white or flesh coloured, regular. Annual: flowers in August: grows in moist fields in England: not common. *Sison segetum.* Sm. *Eng. Bot.* vol. iv. pl. 228. *Eng. Fl.* vol. ii. p. 61. 448.

68. CONI'UM. Linn. HEMLOCK.

Flowers all perfect, slightly irregular. Calyx obsolete. Petals 5, superior, obcordate, with an acute inflexed point; the outermost rather larger. Filaments capillary, scarcely so long as the corolla; anthers roundish. Germen ovate, a little compressed, furrowed, wrinkled; styles filiform, spreading, a little swelled at the base; stigmas obtuse. Fruit ovate, slightly compressed, with 10 prominent acute ribs, crowned with the dilated, undulated floral receptacle, and the spreading styles; carpels half ovate, each with 5 acute ribs, the interstices flat.—Name κωνειον of the Greeks. 164.

1. C. macula'tum. L. *Common Hemlock.* Stem much branched, polished and spotted.——*About* three feet high: leaves large, repeatedly compound, with ovate, pinnatifid leaflets: flowers numerous, white, all bearing seeds. The whole plant is fetid and poisonous: it has been used in powder, extract, and infusion, in cancerous diseases, and for chronic ulcers. Perennial: flowers in June and July: grows in waste ground, by walls and hedges: common. *Eng. Bot.* vol. xvii. pl. 1191. *Eng. Fl.* vol. ii. p. 65. 449.

69. BUPLEU'RUM. Linn. HARE'S-EAR.

Flowers all regular, perfect, and productive. Calyx obsolete. Petals 5, superior, equal, broadish cuneiform, very short, with a broad, involute point. Filaments filiform, spreading; anthers roundish. Germen ovate, furrowed; styles very

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short, spreading, with broad tumid bases; stigmas minute, simple. Fruit ovate, obtuse, a little compressed, crowned by the very short styles; carpels somewhat cylindrical, with 5 prominent, acute ribs; the interstices flat. Juncture narrower than the seeds.—Name from βους, an ox, and πλευρον, a rib. 165.

1. B. arista'tum. Bark. *Narrow-leaved Hare's-ear.* General and partial bracts each of from 4 to 5 lanceolate pointed leaves, longer than the umbels; leaves linear; stem panicled.——*Stem* about six inches high: flowers in terminal umbels. Annual: flowers in July: grows on rocks in the south of England: rare. Near Torquay, Devonshire. *Bupleurum Odontites.* *Eng. Bot.* pl. 2468. *Brit. Fl.* 4th ed. p. 114. 450.

2. B. rotundifo'lium. L. *Common Hare's-ear*, or *Thorough-wax.* General bracts none; leaves perfoliate.——*About* a foot high: leaves broadly ovate, united in pairs: flowers yellow. Annual: flowers in July: grows in corn-fields in England: rare. Common in Cambridgeshire. *Eng. Bot.* vol. ii. pl. 99. *Eng. Fl.* vol. ii. p. 93. 451.

3. B. tenuis'simum. L. *Slender Hare's-ear.* Umbels simple, alternate, of few flowers, with 5 subulate bracts.——*Stem* slender, from three to twelve inches high: leaves lanceolate, erect: flowers yellowish. Annual: flowers in August and September: grows in salt marshes in the south and east of England. *Eng. Bot.* vol. vii. pl. 478. *Eng. Fl.* vol. ii. p. 94. 452.

4. B. falca'tum. L. *Sickle-leaved Hare's-ear.* Radical leaves obovate or oblong, on long stalks; upper sessile, linear-lanceolate; partial involucre of 5 lanceolate leaves, as long as the flowers. ——*Stem* erect, panicled. Perennial: flowers in August: grows by road-sides in England: very rare. Discovered by Mr. T. Corder, jun., on Norton Heath, near Ongar, Essex. *Eng. Bot. Suppl.* pl. 2763. 453.

70. SE'SELI. Linn. MEADOW-PARSLEY.

Flowers imperfectly separated, regular, the innermost abortive. Calyx superior, of 5 lanceolate, acute, permanent leaves. Petals 5, obcordate, with a broad inflexed point. Filaments filiform, spreading, incurved, longer than the petals; anthers roundish. Germen ovate, abrupt, downy; styles at first short, erect, each with a large tumid base; afterwards spreading; finally reflexed; stigmas bluntish. Fruit ovate, slightly compressed, hairy, ribbed, crowned by the calyx and styles; carpels ovate, each with 5 prominent ribs. Juncture close, as broad as the seeds.—Named after *Athamas*, a king of Thebes, or a mountain of the same name in Thessaly. 166.

1. S. Libano'tis. L. Koch. *Mountain Meadow-Parsley.* Leaves doubly pinnatifid, cut; umbels hemispherical.——*Root* fusiform, crowned with the fibrous remains of the old leaves: stem furrowed, from one to three feet high: flowers white. Perennial: flowers in August: grows in elevated chalky pastures in England: rare. Gog-

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magog Hills, Cambridgeshire. *Athamanta Libanotis*, Sm. *Libanotis montana*, Crantz, Bab. p. 142. *Eng. Bot.* vol. ii. pl. 198. *Eng. Fl.* vol. ii. p. 88. 454.

71. TORDYLIUM. Linn. HARTWORT.

Flowers separated, irregular, those of the circumference fertile. Calyx of 5 unequal, subulate teeth. Petals 5, obcordate, with an inflexed point; those of the circumference largest. Filaments filiform, spreading; anthers roundish. Germen ovate, rugged or bristly, transversely compressed; styles filiform, erect, swelled at the base, afterwards spreading; stigmas simple. Fruit nearly round, transversely compressed, crowned with the tumid bases of the styles; carpels of the same form, indistinctly 5-ribbed, sometimes rough.—Name, τορδύλιον, used by the Greeks. 167.

1. T. ma'ximum. L. *Great Hartwort.* Leaflets lanceolate, deeply serrate; flowers somewhat radiant, the outermost petal with 2 equal lobes; stem rough, with close deflexed bristles.——*Stem* three or four feet high: flowers reddish. Annual: flowers in June and July: grows in waste ground about London and Oxford: rare. *Eng. Bot.* vol. xvii. pl. 1173. *Eng. Fl.* vol. ii. p. 105. 455.

72. CICUTA. Linn. WATER HEMLOCK.

Flowers uniform, perfect, and nearly regular. Calyx superior, of 5 broad, acute, somewhat unequal leaves. Petals 5, ovate, or slightly cordate, with an incurved point. Filaments filiform, spreading, as long as the corolla; anthers roundish. Germen hemispherical, ribbed; styles filiform, short, erect, little swelled at the base; stigmas obtuse. Fruit nearly orbicular, cordate at the base, a little compressed, crowned with the permanent calyx and recurved styles; carpels hemispherical, tumid, each with 3 double ribs.—Name, *cicuta*, a pipe or reed, from the hollow stem. 168.

1. C. viros'a. L. *Water Hemlock. Water Cowbane.* Leaves twice ternate; leaflets narrow-lanceolate, decurrent.——*Root* hollow, with whorled fibres: stem two or three feet high, furrowed, smooth; umbels large, stalked: general involucre of 2 or 3 slender leaves: flowers white. Poisonous. Perennial: flowers in August: grows in ditches, lakes, and rivers: not common. *Eng. Bot.* vol. vii. pl. 479. *Eng. Fl.* vol. ii. p. 62. 456.

73. ÆTHU'SA. Linn. FOOL'S-PARSLEY.

Flowers all perfect, the outer a little irregular. Calyx superior, of 5 very minute, pointed, spreading teeth. Petals 5, obcordate, with an acute inflexed point, the outermost rather larger. Filaments capillary, horizontal, shorter than the corolla; anthers roundish. Germen ovate, furrowed; styles short, spreading, tumid and ovate at the base; stigmas obtuse.

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Fruit ovate, crowned by the reflexed permanent styles; carpels with 5 tumid, acutely-keeled ribs and deep interstices.—Named from αιθω, to burn, from its acridity. 169.

1. Æ. Cyna'pium. L. *Common Fool's-Parsley.* Leaves doubly pinnate; leaflets wedge-shaped, decurrent, with lanceolate segments. ——*Stem* a foot or more high, erect, striated, branched: umbels stalked, terminal: partial bracts long, acute, pendulous: flowers white. Poisonous: is said to be sometimes mistaken for parsley, and used as such, when it occasions sickness. Annual: flowers in July and August: grows in gardens, cultivated fields, and by walls: common. *Eng. Bot.* vol. xvii. pl. 1192. *Eng. Fl.* vol. ii. p. 64. 457.

74. ANGELICA. Linn. ANGELICA.

Flowers all perfect, fertile and regular. Calyx with 5 small teeth. Petals 5, superior, equal, lanceolate, flattish, with an inflexed point, their base narrow. Filaments filiform, spreading, longer than the corolla; anthers roundish. Germen ovate, strongly furrowed; styles at first very short, erect, broad and tumid at the base; afterwards elongated and recurved; stigmas knobbed; floral receptacle thin, waved, ultimately projecting a little beyond the bases of the styles. Fruit elliptical, slightly compressed, bordered, crowned with the floral receptacle and styles; carpels oblong, with 3 elevated ribs, and a flat border; the interstices wrinkled.—Named *angelic*, on account of its supposed properties. 170.

1. A. Archange'lica. L. *Garden Angelica.* Terminal leaflet lobed.——*Root* large, fleshy, aromatic. Stem erect, four or five feet high, striated, polished: leaves bipinnate: umbels globular. Biennial: flowers from June to September: grows in watery places: rare, and apparently naturalized. *Eng. Bot.* pl. 2561. *Eng. Fl.* vol. ii. p. 81. 458.

2. A. sylves'tris. L. *Wild Angelica.* Leaflets equal, ovate, serrate.——*Stem* three feet high, round, polished, with spreading branches: leaves twice pinnate, smooth: umbels convex, with numerous general and partial rays: bracts slender: flowers white. Bitter and aromatic. Perennial: flowers in July: grows in watery places, and moist woods: common. *Eng. Bot.* vol. xvi. pl. 1128. *Eng. Fl.* vol. ii. p. 81. 459.

75. TORI'LIS. Adans. HEDGE-PARSLEY.

Flowers all perfect and fertile, slightly irregular. Calyx superior, of 5 short, broad, acute, nearly equal, permanent sepals. Petals nearly equal, obcordate, with an inflexed point. Filaments capillary, spreading; anthers roundish. Germen ovate, bristly; styles subulate, somewhat spreading, much shorter than the corolla, permanent, very tumid at the base; stigmas simple. Fruit ovate, crowned with the spreading styles; carpels without ribs, covered with ascending, subulate prickles,

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or partly with prominent granulations; their juncture channelled, close.—Name from τεμνω, to carve, in allusion to the fruit. 171.

1. T. Anthris'cus. Gærtn. *Upright Hedge-parsley.* Umbels of many close rays, with many general bracts; leaves bipinnate, with pinnatifid leaflets; branches nearly erect.——*Stem* erect, two or three feet high, furrowed: flowers small, white: fruit small, with incurved bristles. Annual: flowers in July: grows in hedges and waste places: common. *Eng. Bot.* vol. xiv. pl. 987. *Caucalis Anthriscus. Eng. Fl.* vol. ii. p. 43. 460.

2. T. infes'ta. Spr. *Spreading Hedge-parsley.* Umbels of many close rays, with scarcely any general bracts; leaves pinnate, with pinnatifid leaflets; branches spreading.——*Stem* about a foot high: flowers white. Annual: flowers in July: grows in corn-fields and by way-sides: common. *Eng. Bot.* vol. xix. pl. 1314. *Caucalis infesta. Eng. Fl.* vol. ii. p. 43. 461.

3. T. nodo'sa. Gærtn. *Knotted Hedge-parsley.* Umbels lateral, simple, nearly sessile; stem prostrate; fruit partly granulated.——*Stems* about a foot long, rough: leaves doubly pinnate, hairy, deep glaucous green. Annual: flowers in May and June: grows in waste places and by way-sides: frequent. *Eng. Bot.* pl. 199. *Eng. Fl.* vol. ii. p. 44. 462.

76. ANTHRIS'CUS. Pers. BEAKED-PARSLEY.

Flowers all perfect, regular. Calyx obsolete. Petals equal, uniform, obcordate, with a small inflexed point. Filaments capillary, spreading, as long as the corolla; anthers roundish. Germen oblong, bristly; floral receptacle slightly bordered; styles subulate, short, erect, tumid at the base; stigmas obtuse. Fruit ovate, tumid, beaked; carpels without ribs, glabrous, or covered with short incurved bristles; the beak angular, naked, much shorter than the body of the fruit, crowned with the permanent styles.—Name used by Pliny. 172.

1. A. vulga'ris. Pers. *Common Beaked-parsley.* Fruit ovate, twice the length of its beak; leaves thrice pinnate, with pinnatifid leaflets.——*Stem* two or three feet high, erect, smooth, and glossy, swelled under the joints: flowers small, white, all perfect, and fertile. Annual: flowers in May: grows in waste ground, on dry banks, and by road-sides. *Eng. Bot.* vol. xii. pl. 1818. *Scandix Anthriscus. Eng. Fl.* vol. ii. p. 45. 463.

2. A. sylves'tris. Hoffm. *Wild Beaked-parsley. Cow Chervil. Cow Parsley.* Umbels terminal, stalked; leaves twice pinnate, leaflets pinnatifid; stem hairy; fruit glabrous, linear.——*Stem* from two to three feet high, hollow, branched, furrowed or striate, downy; petals white, in those of the marginal flower unequal. Perennial: flowers in May and June: grows in hedges, waste places, pastures, and by walls and roads: very common. Not unwholesome for cattle, but seldom eaten by them. *Chærophyllum sylvestre,* Sm. *Eng. Bot.* vol. xi. pl. 752. *Eng. Fl.* vol. ii. p. 48. 464.

3. A. cerefo'lium. Hoffm. *Garden Beaked-parsley. Garden Chervil.* Umbels lateral, nearly sessile; leaves thrice pinnate,

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leaflets pinnatifid; stem hairy above the joints.——*Stem* two or three feet high, striate, glabrous: umbels of 3 or 4 general, and several partial rays: flowers white, cultivated as a pot-herb. Annual: flowers in June: grows in waste ground: rare, and probably not indigenous. *Scandix cerefolium*, Sm. *Eng. Bot.* vol. xviii. pl. 1268. *Eng. Fl.* vol. ii. p. 48. 465.

77. CHÆROPHYL'LUM. Linn. CHERVIL.

Flowers imperfectly separated; the innermost barren. Calyx obsolete. Petals somewhat unequal, obcordate, with an inflexed point. Filaments filiform, spreading, as long as the corolla; anthers roundish. Germen inferior, oblong, slightly compressed, smooth; styles short, subulate, tumid at the base; stigmas simple. Fruit oblong, with 5 obtuse ribs, and a short, angular, smooth beak, crowned by the flattened floral receptacle, upon which remain the slightly recurved styles.—Named from χαιρω, to rejoice, and φυλλον, a leaf. 173.

1. Ch. temu'lentum. L. *Rough Chervil.* Fruit nearly glabrous, with obtuse ribs; stem rough, swelled under the joints; leaflets ovate or oblong.——*Stem* from two to three feet high, ribbed, striate, rough with short deflexed hairs, and spotted with purple: flowers numerous, white. Biennial: flowers in June and July: grows in hedges and bushy places: common. *Chærophyllum temulentum.* *Eng. Bot.* vol. xxii. pl. 1521. *Eng. Fl.* vol. ii. p. 51. 466.

2. Ch. aure'um. L. *Tawny-fruited Chervil.* Fruit ribbed, nearly smooth, coloured; stems slightly swelled below the joints, hairy; leaflets sharply pinnatifid, long pointed.——*Stem* three feet high, angular, striate, hairy and bristly: flowers cream-coloured. Perennial: flowers in June: grows in the borders of fields in Scotland. Between Arbroath and Montrose, and near Corstorphine. Mr. G. Don. *Eng. Bot.* vol. xxx. pl. 2103. *Chærophyllum aureum.* *Eng. Fl.* vol. ii. p. 52. 467.

3. Ch. aroma'ticum. L. *Broad-leaved Chervil.* Fruit ribbed, smooth; leaflets ovate, acute, serrate, undivided.——*Stems* two or three feet high, striate, slightly swelled below the joints, hairy below, smooth above: flowers numerous, white, the outer fertile. Perennial: flowers in June: found by Mr. G. Don, between Forfar and Arbroath. *Eng. Bot. Suppl.* pl. 2636. *Eng. Fl.* vol. ii. p. 52. Neither this nor the preceding has been found by any person but the late Mr. Don. 468.

78. MYR'RHIS. Tourn. CICELY.

Flowers imperfectly separated, the innermost barren. Calyx obsolete. Petals somewhat unequal, uniform, obcordate, with an inflexed point. Filament filiform, spreading, as long as the petals; anthers roundish. Germen oblong, narrow, somewhat clavate, abrupt, smooth, slightly compressed; styles subulate, very tumid at the base; stigmas obtuse. Fruit oblong, narrow, with a deep furrow at the suture, beakless, smooth; the summit crowned with the thick bases of the spreading, permanent styles.—Named from μυῤῥα, myrrh. 174.

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1. **M. odora'ta.** L. Scop. *Sweet Cicely.* Fruit with very sharp angles, roughish towards the summit.——*Stem* from two to four feet high; smooth, striate, hollow: leaves thrice pinnate, pale-green: flowers numerous, white: fruit large. The whole plant is sweet and aromatic: the fruit is used in the north of England for perfuming furniture. Perennial: flowers in May: grows in pastures and by old walls, generally near houses: frequent. *Eng. Bot.* vol. x. pl. 697: *Scandix odorata. Eng. Fl.* vol. ii. p. 51. 469.

79. SCAN'DIX. Linn. NEEDLE-CHERVIL.

Flowers separated, the innermost barren. Calyx obsolete. Petals unequal, undivided, tapering at the base, spreading. Filaments filiform, spreading, as long as the corolla, anthers roundish. Germen oblong, rough with close hair; styles short, permanent, swelled at the base; stigmas simple, in the barren flowers obtuse. Fruit oblong, ribbed, somewhat bristly, its beak five times as long, linear, bristly, crowned with the enlarged 5-lobed, coloured floral receptacle, surrounding the base of the styles.—Named σκανδιξ, from σκιω, to prick, from the sharp points to the fruit. 175.

1. **S. Pecten-vene'ris.** L. *Common Needle-chervil. Shepherd's needle. Venus' comb.* Fruit nearly smooth, with the beak bristly at the edges; umbels simple; leaves thrice pinnatifid, with linear acute segments.——*Stem* about a foot high, furrowed: umbels small, stalked: flowers white: fruit very large. Annual: flowers from June to September: grows in cultivated fields; common. *Eng. Bot.* vol. xx. pl. 1397. *Eng. Fl.* vol. ii. p. 47. 470.

80. FŒNI'CULUM. Hoffm. FENNEL.

Flowers all uniform, perfect and fertile. Calyx obsolete. Petals roundish, entire, with an obtuse involute lobe. Filaments filiform, spreading, incurved; anthers roundish. Germen oblong, a little compressed; styles short, tumid at the base; stigmas simple. Fruit oblong; carpels with 5 prominent, obtuse ribs.—Name from *fœnum*, hay, its smell being similar. 176.

1. **F. vulga're.** Gærtn. *Common Fennel.* Leaves thrice pinnate; leaflets capillary, drooping.——*Stem* three or four feet high, erect, much branched, striate, smooth: umbels terminal, very broad, concave: flowers golden-yellow. Aromatic: the "seeds" are used as a carminative for infants. Perennial: flowers in July and August: grows on rocks and walls, generally near the sea, in the south of England, and in South Wales. *Anethum Fœniculum*, Sm. *Meum Fœniculum. Eng. Bot.* vol. xvii. pl. 1208. *Eng. Fl.* vol. ii. p. 85. 471.

81. CORIAND'RUM. Linn. CORIANDER.

Flowers all perfect and fertile. Calyx of 5 teeth. Petals obcordate, with an inflexed point, the outer larger and bifid. Filaments filiform; anthers roundish. Germen globose;

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styles tumid at the base. Fruit globose; carpels with the 5 primary ribs depressed, the interstices prominent, slender.—Name from κορις, a bug, the bruised foliage having a fetid smell. 177.

1. C. sa'tivum. L. *Common Coriander*. The only species.——*Stem* erect, a foot or more high: leaves twice pinnate, incised, the upper with linear segments: flowers white. Annual: flowers in June: grows in fields and waste places in England: but not more indigenous than the Canary-grass. *Eng. Bot.* pl. 67. 472.

82. A'PIUM. Linn. WILD-CELERY.

Flowers uniform, nearly regular, almost all perfect and fertile. Calyx obsolete. Petals 5, superior, roundish, with a small inflexed point, all nearly equal. Filaments filiform, as long as the corolla; anthers roundish. Germen nearly globose; styles filiform, reflexed, greatly swelled at the base; floral receptacle round, flattened; stigmas obtuse. Fruit ovate or round, slightly compressed, crowned with the withered receptacle and spreading styles; carpels ovate, with 5 acute ribs, the interstices flat.—Named from the Celtic *apon*, water. 178.

1. A. grave'olens. L. *Wild-celery*. Leaflets of the stem-leaves cuneiform; stem furrowed.——*Stems* two feet long, spreading or floating: leaves pinnate or ternate: flowers small, numerous, greenish-white. Biennial: flowers in August and September: grows in ditches and marshy ground: not unfrequent in England. Rare in Scotland. Fetid, acrid, and noxious: becoming mild by cultivation. *Eng. Bot.* vol. xvii. pl. 1210. *Eng. Fl.* vol. ii. p. 76. 473.

83. TRI'NIA. Hoffm. TRINIA.

Diœcious. Calyx obsolete. Petals of the barren flowers lanceolate, with an inflexed point; of the fertile flowers ovate, with a short inflexed point. Filaments filiform, spreading; anthers roundish. Germen ovate, furrowed; styles short, swelled at the base. Fruit ovate; carpels with 5 prominent ribs.—Named after *C. B. Trinius*, a Russian botanist. 179.

1. T. vulga'ris. De C. *Common Trinia*. Leaves twice pinnate, with nearly linear leaflets; umbels panicled; ribs of the fruit obtuse.——*About* a foot high: root fusiform: stem and leaves glaucous-green: flowers cream-coloured. Perennial: flowers in May and June: grows in rocky places in England: also near Athboy, county of Meath. *Pimpinella dioica*, Sm. *Eng. Bot.* vol. xvii. pl. 1209. *Eng. Fl.* vol. ii. p. 90. 474.

84. SMYR'NIUM. Linn. ALEXANDERS.

Flowers nearly uniform and regular, the innermost barren. Calyx superior, of 5 very minute, acute, permanent leaves. Petals 5, equal, lanceolate, incurved. Filaments capillary, as long as the corolla; anthers roundish. Germen ovate, angular,

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and furrowed; styles filiform, spreading, tumid, and somewhat depressed at the base; stigmas simple. Fruit roundish, ribbed, crowned with the styles or their bases; carpels with 3 prominent, acute ribs; the interstices convex.—Named from μυρρα, myrrh, from the scent of the juice. 180.

1. S. Olusa'trum. L. *Alexanders.* Stem-leaves ternate, stalked, serrate.——*Root* fleshy, branching: stem two or three feet high, solid, branched: lower leaves twice ternate: flowers small, white, bitter, and aromatic: formerly cultivated for culinary purposes. Biennial: flowers in May: grows in waste ground, about ruins, and on rocks near the sea: frequent. *Eng. Bot.* vol. iv. pl. 230. *Eng. Fl.* vol. ii. p. 74. 475.

85. PHYSOSPER'MUM. Cuss. BLADDER-SEED.

Flowers regular, perfect. Calyx of 5 teeth. Petals obcordate, with an inflexed point. Filaments filiform, spreading, anthers roundish. Germen subglobose, compressed; styles short. Fruit of 2 ovato-globose carpels, each with 5 slender equal ridges.—Named from φυσα, a bladder, and σπερμα, a seed. 181.

1. P. cornubien'se. Hook. *Cornish Bladder-seed.* Radical leaves twice or thrice ternate, with cuneiform, or three-lobed leaflets; stem-leaves ternate, with entire, lanceolate leaflets.——*Root* tapering: stem two or three feet high, erect, roughish, striate: petals white. Perennial: flowers in July: grows in bushy fields, in Cornwall. *Ligusticum cornubiense,* Sm. *Eng. Bot.* vol. x. pl. 683. *Eng. Fl.* vol. ii. p. 82. 476.

86. PASTINA'CA. Linn. PARSNEP.

Flowers regular, uniform, perfect. Calyx superior, of 5 very minute teeth. Petals 5, broadly lanceolate, pointed, involute. Stamens filiform, spreading, as long as the petals; anthers roundish. Germen ovate, obscurely striate; styles at first very short, erect, afterwards elongated, spreading, recurved, greatly dilated at the base; stigmas knobbed. Fruit broadly elliptical, transversely compressed, crowned by the broad, round, waved, floral receptacle and the styles; carpels broadly elliptical, with a slight notch at the top, flattish at the back, with 3 ribs, and two more prominent and broader ones at the circumference, their border narrow, thin, acute. Juncture close, flat, nearly as broad as the seeds.—Name from *pastus,* food. 182.

1. P. sati'va. L. *Common Wild Parsnep.* Leaves simply pinnate, downy beneath.——*Root* spindle-shaped: stem three feet high, erect: flowers yellow, small. Biennial: flowers in July: grows at the edges of fields in England: not common. *Eng. Bot.* vol. viii. pl. 556. *Eng. Fl.* vol. ii. p. 101. 477.

87. PIMPINEL'LA. Linn. BURNET-SAXIFRAGE.

Flowers regular, perfect or diœcious. Calyx obsolete. Pe-

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tals 5, superior, equal, obcordate, with an inflexed point. Filaments capillary, spreading, longer than the corolla; anthers roundish. Germen ovate, a little compressed, smooth, finely ribbed; styles capillary, somewhat spreading, at first short, afterwards elongated, tumid and nearly globular at the base; stigmas obtuse. Fruit ovate, crowned by the long styles; carpels with 5 rather sharp ribs.—Name doubtful. 183.

1. **P. Saxi'fraga.** L. *Common Burnet-saxifrage.* Leaves pinnate; leaflets of the root-leaves roundish, of the uppermost with linear segments.——*Stems* from one to two feet high, striate, downy: flowers white, small. Perennial: flowers in July and August: grows in dry pastures: common. *Eng. Bot.* vol. vi. pl. 407. *Eng. Fl.* vol. ii. p. 89. 478.

2. **P. mag'na.** L. *Greater Burnet-saxifrage.* Leaves pinnate, leaflets all ovate, serrate, somewhat cut; the terminal one three-lobed.——*Taller* than the last, with white flowers. Perennial: flowers in July and August: grows in shady places and hedges in several parts of England. *Eng. Bot.* vol. vi. pl. 408. *Eng. Fl.* vol. ii. p. 90. 479.

88. CA'RUM. Linn. CARAWAY.

Flowers separated, somewhat irregular; the innermost barren; those of the circumference perfect and productive. Calyx superior, of 5 very minute, acute leaves, often wanting. Petals 5, somewhat unequal, obcordate, with inflexed points. Filaments capillary, straight, spreading, as long as the petals; anthers roundish. Germen ovate, abrupt; styles at first very short, tumid at the base, afterwards elongated, filiform, spreading; stigmas bluntish. Floral receptacle ring-like, thin, waved, extending beyond the bases of the styles. Fruit elliptical, compressed, crowned with the receptacle and styles; carpels nearly cylindrical, narrow at both ends, with 5 acute slender ribs; the interstices somewhat convex, smooth.—Name used by the Romans, and derived from *Caria*, where the plant grew. 184.

1. **C. Ca'rui.** L. *Common Caraway.* Stem branched; partial bracts none.——*Root* tapering: stem about two feet high, erect, angular, and furrowed: lower leaves stalked, doubly pinnate, with numerous finely cut leaflets: upper leaves opposite, very unequal: umbels numerous, erect: flowers numerous, white. Cultivated for its seeds, which are carminative. Biennial: flowers in June: grows in meadows and pastures: not common, nor indigenous. *Eng. Bot.* vol. xxi. pl. 1503. *Eng. Fl.* vol. ii. p. 86. 480.

2. **C. verticil'latum.** L. Koch. *Whorled Caraway.* Leaflets all capillary, in numerous whorled segments.——*Stem* about a foot high, erect, round, striate: leaves chiefly from the root: umbels few, terminal, with numerous white flowers. Perennial: flowers in July and August: grows in moist pastures: near Carlisle; in

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Wales; and the south-west of Scotland. *Sison verticillatum*, Linn. *Eng. Bot.* vol. vi. pl. 395. *Eng. Fl.* vol. ii. p. 59. 481.

89. ÆGOPO'DIUM. Linn. GOUT-WEED.

Flowers all perfect and fertile, the outermost slightly irregular. Calyx obsolete. Petals obcordate, broad, with an inflexed point; the outer one, in the marginal flowers, a little larger. Filaments filiform, spreading, as long as the petals; anthers roundish. Germen roundish, furrowed; styles at first short, erect, tumid and ovate at the base; afterwards filiform, elongated, reflexed; stigmas knobbed. Fruit elliptical, slightly compressed, crowned with the reflexed styles; carpels oblong, slightly incurved, each with 5 prominent ribs; the interstices nearly flat.—Name from αἴξ, a goat, and πους, a foot, from the supposed resemblance of the leaves to the foot of that animal. 185.

1. Æ. Podagra'ria. L. *Gout-weed. Bishop-weed. Herb Gerarde.* ——*Stem* from one to two feet high, erect; hollowed, furrowed: lower leaves twice ternate, stalked: upper ternate and nearly sessile: leaflets ovate, serrate, smooth, dark green: umbels large: flowers crowded, white. Perennial: flowers from June to August: grows in shady places, churchyards, and rich cultivated ground: common. *Eng. Bot.* vol. xiv. pl. 940. *Eng. Fl.* vol. ii. p. 77. 482.

TRIGYNIA.

90. VIBUR'NUM. Linn. GUELDER-ROSE.

Calyx superior, minute, deeply divided into 5 segments, permanent. Corolla campanulate, with 5 obtuse, spreading segments. Filaments subulate, spreading, as long as the corolla; anthers roundish. Germen roundish; stigmas 3, sessile, obtuse. Berry roundish, 1-celled. Seed solitary, roundish, compressed. —Name doubtful. 186.

1. V. Lanta'na. L. *Way-faring Tree. Mealy Guelder-rose.* Leaves ovate, serrate, veined, downy beneath.——*A small* tree with opposite, pliant, mealy branches: cymes broad, of numerous white flowers: berries black. The bark of the root is used for making bird-lime. Flowers in May: grows in woods and hedges: not common. *Eng. Bot.* vol. v. pl. 331. *Eng. Fl.* vol. ii. p. 107. 483.

2. V. O'pulus. L. *Common Guelder-rose. Water Elder.* Leaves lobed, their stalks beset with glands.——*A small* tree, with 3-lobed, serrate, veined leaves: cymes large, white, several of the marginal flowers are dilated, without stamens or pistils. In the cultivated state nearly the whole cyme consists of such flowers: berries bright-red. Flowers in June: grows in woods and wet hedges: frequent. *Eng. Bot.* vol. v. pl. 332. *Eng. Fl.* vol. ii. p. 107. 484.

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91. SAMBU'CUS. Linn. ELDER.

Calyx superior, small, deeply divided into 6 segments, permanent. Corolla nearly rotate, but concave, with 5 obtuse segments. Filaments subulate, as long as the corolla; anthers roundish. Germen ovate; obtuse. Style none; stigmas 3, obtuse. Berry globose, 1-celled. Seeds 3, convex externally, angular on the inner side.—Named from σαμβυκη, a musical instrument, perhaps made from the wood of this plant. 187.

1. S. E'bulus. L. *Dwarf Elder.* Cymes with 3 principal branches; stipules leaf-like; stem herbaceous.——*Stems* simple, erect, about three feet high: leaves pinnate, with lanceolate, acute, serrate, smooth leaflets: cymes large, with purplish flowers: berries globose, black. The berry is purgative and emetic. Perennial: flowers in June: grows in woods and hedges; frequent. *Eng. Bot.* vol. vii. pl. 475. *Eng. Fl.* vol. ii. p. 108. 485.

2. S. ni'gra. L. *Common Elder.* Cymes with 5 principal branches; stipules obsolete; leaflets ovate; stem woody.——*A small* tree, with smooth branches, filled with light spongy pith: cymes large, of numerous cream-coloured flowers; berries globose, purplish-black. The inner green bark is purgative and diuretic, as are the leaves. The berries made into rob are gently laxative: they are also used for making a kind of wine, as well as for adulterating port. Flowers in July: grows in woods and hedges: common. *Eng. Bot.* vol. vii. pl. 476. *Eng. Fl.* vol. ii. p. 109. 486.

92. CORRIGI'OLA. Linn. STRAPWORT.

Calyx inferior, of 5 obovate, spreading, permanent leaves, as large as the corolla. Petals 5, obovate, entire, spreading. Filaments subulate, small, not half so long as the petals; anthers 2-lobed. Germen ovate, 3-cornered; styles 3, short, spreading; stigmas obtuse. Fruit roundish, indehiscent, 1-seeded, covered by the closed calyx.—Named from *corrigia*, a strap. 188.

1. C. littora'lis. L. *Sand Strapwort.*——*Root* tapering, small: stems spreading on the ground: leaves between lanceolate and linear, glaucous: clusters terminal and lateral: flowers numerous, white. Annual: flowers in July and August: grows on the south-western coast of England: rare. *Eng. Bot.* vol. x. pl. 668. *Eng. Fl.* vol. ii. p. 113. 487.

93. STAPHYLE'A. Linn. BLADDER-NUT.

Calyx inferior, concave, deeply divided into 5 coloured segments, as long as the corolla. Petals 5, oblong, erect, similar to the calyx. Filaments filiform, erect, as long as the petals; anthers roundish. Germen rather thick, with 2 or 3 deep divisions; styles 2 or 3, erect, a little longer than the stamens; stigmas obtuse, close together. Capsules 2 or 3, inflated,

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united lengthwise. Seeds 2 in each capsule, globular, with a circular pit at the side, and an oblique lateral point.—Named from σταφυλη, a bunch of grapes. 189.

1. S. pinna'ta. L. *Common Bladder-nut.* Leaves pinnate; style and capsules only 2.——*A* smooth-branched shrub, with numerous suckers, and pale greenish-yellow flowers. Flowers in June: grows in hedges and thickets in Yorkshire and Kent: probably not truly wild. *Eng. Bot.* vol. xxii. pl. 1560. *Eng. Fl.* vol. ii. p. 110. 488.

94. TA'MARIX. Linn. TAMARISK.

Calyx inferior, deeply divided into 5 obtuse, erect, permanent segments, half as long as the corolla. Petals 5, obovate, concave, spreading. Filaments capillary, arising from the calyx, sometimes with 5 intermediate ones; anthers roundish. Germen ovate, pointed; styles none; stigmas 3, revolute, obtuse, downy. Capsule oblong, pointed, triangular, longer than the calyx, 1-celled, 3-valved. Seeds numerous, minute, with a stalked feathery crown.—Named from the *Tamarisci*, a people in ancient Spain, in whose country it still abounds. 190.

1. T. an'glica. Webb. *English Tamarisk.* Leaves glabrous: lanceolate, somewhat narrowed, and spurred at the base; hypogynous disk with 5 angles tapering into the 5 filaments of the cordate anthers; capsule rounded at the base, abruptly narrowed upwards. ——*A small* shrub, with numerous red, shining branches; minute, scattered leaves; and clusters of reddish or white flowers. Flowers in July: grows on rocks in the south of England: rare, and probably planted. *Tamarix anglica*, Webb, in Hook. *Jour. of Bot.* vol. iii. p. 429. *Tamarix gallica.* Sm. *Eng. Bot.* vol. xix. pl. 1318. *Eng. Fl.* vol. ii. p. 112. 469.

TETRAGYNIA.

95. PARNAS'SIA. Linn. GRASS OF PARNASSUS.

Calyx inferior, deeply divided in 5 oblong, spreading, permanent segments. Petals 5, ovate, spreading, longer than the calyx, with several longitudinal ribs. Nectaries 5 fleshy scales, attached to the claws of the petals, fringed with a row of bristles, each bearing a small transparent globe. Filaments subulate, spreading; anthers cordate, flattened. Germen ovate, large; stigmas 4, obtuse, permanent. Capsule ovate, 4-cornered, 4-celled, 4-valved; receptacles 4, linear, abruptly terminating the partitions, which are from the middle of each valve. Seeds numerous, oblong.—Named from Mount *Parnassus.* 191.

1. P. palus'tris. L. *Common Grass of Parnassus.* Leaves cor-

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date; bristles of each nectary numerous.——*Stems* about six inches high, angular, twisted. One of the most beautiful and elegant of our native plants. Perennial: flowers in August, September, and October: grows in boggy places: frequent. Common in Scotland. *Eng. Bot.* vol. ii. pl. 82. *Eng. Fl.* vol. ii. p. 114. 490.

PENTAGYNIA.

96. ARME'RIA. Willd. SEA-PINK.

Flowers in a bracteated rounded head, with an inverted cylindrical sheath to the stalk. Calyx inferior, funnel-shaped; tube contracted; limb undivided, plaited, membranous, permanent. Corolla funnel-shaped, of 5 petals, contracted and united at the base, dilated upwards, obtuse, spreading. Filaments subulate, shorter than the petals; anthers oblong. Germen roundish, very minute; styles filiform, spreading, hairy, permanent; stigmas acute. Capsule oblong, membranous, 1-celled, covered by the permanent calyx. Seed solitary, oblong.—Name, that formerly applied to some species of pink. 192.

1. A. mari'tima. Willd. *Common Sea-pink. Sea-gilliflower. Thrift.* Awns of the calyx minute; leaves linear, 1-nerved.——*Root* long, branched, woody: stalks from three to nine inches high; flowers numerous, rose-coloured, forming a close head. The leaves vary in breadth, and in being flat or grooved above; hence several trifling distinctions, to indicate varieties. Perennial: flowers in July and August: grows on the sea-shore, in sandy ground, and the clefts of rocks: common: also on the summits of high mountains. *Statice Armeria*, Linn. *Eng. Bot.* vol. iv. pl. 226. *Eng. Fl.* vol. ii. p. 115. 491.

2. A. plantagi'nea. Willd. *Plantain-leaved Sea-pink.* Awns of the calyx long; leaves between linear and lanceolate, with 3 or 5 nerves.——*Distinguished* from the former by its broader leaves, and the long teeth to its calyx: flowers pale-purple. Perennial: flowers in June and July: grows in the island of Jersey, where it was discovered by Mr. W. C. Trevelyan, in 1833. *Brit. Fl.* 4th ed. p. 130. 492.

97. STA'TICE. Linn. SEA-LAVENDER.

Flowers in a panicled spike. Calyx inferior, funnel-shaped; tube contracted; limb with 5 short segments, plaited, membranous, permanent. Corolla funnel-shaped, of 5 petals, united at the base, dilated upwards, spreading. Filaments subulate, shorter than the petals; anthers oblong. Germen roundish, very minute; styles filiform, spreading, glabrous, permanent; stigmas acute. Capsule oblong, membranous, 1-celled, covered by the permanent calyx. Seed solitary, oblong.—Name from

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στατίζω, to stop, on account of its having been used to check dysentery. 193.

1. S. Limo'nium. L. *Spreading-spiked Sea-lavender.* Leaves elliptical, bristle-pointed, 1-ribbed; scape branched above the middle; branches much divided, curved outwards; ultimate divisions short, unilateral, ascending, densely-flowered; calyx-segments acute, with intermediate teeth.——*Root* woody: leaves leathery: flowers blue, in a corymbose panicle. Perennial: flowers in July and August: grows in muddy salt marshes, in England, Ireland, and the south of Scotland. *Eng. Bot.* vol. ii. pl. 102. *Eng. Fl.* vol. ii. p. 116. 493.

2. S. rariflo'ra. Drej. *Remote-flowered Sea-lavender.* Leaves oblong-lanceolate, bristle-pointed, 1-ribbed; scape branched from below the middle; branches divided, ascending or incurvate, ultimate divisions elongated, unilateral, with rather distant flowers; calyx-segments acute, with intermediate teeth.——*Although* different in habit from the last, probably a variety of it. Perennial: flowers in July and August: grows in muddy maritime places, in various parts of England, Galloway, Waterford, and Galway. *Statice Limonium* γ. Sm. *Statice Bahusiensis*, Fries, Hook. and Arn. *Brit. Fl.* p. 261. *Eng. Bot. Suppl.* pl. 2917. 494.

3. S. spathula'ta. Desf. *Upright-spiked Sea-lavender.* Leaves spathulate, narrowed into a winged petiole, bristle-pointed, 3-ribbed below; scape branched from below the middle; branches panicled, ascending; ultimate divisions elongated with closely-placed, 2-ranked flowers; calyx-segments blunt, without intermediate teeth. Perennial: flowers in July and August: grows in rocky places, near the sea. *S. binervosa*, G. E. Smith. *Eng. Bot. Suppl.* pl. 2663. Hook. and Arn. *Brit. Fl.* p. 336. 495.

4. S. Cas'pia. Willd. *Matted Sea-lavender.* Leaves spathulate, narrowed into a flat petiole, bristle-tipped behind the point, 3-ribbed below; scape paniculate almost from the base, with numerous slender, zig-zag, repeatedly divided branches, of which the lower are barren; flowers crowded, in small unilateral terminal spikes; calyx-segments acute, denticulate.——*Perennial:* flowers in July: grows in salt-marshes, in Norfolk: rare. Hook. and Arn., *Brit. Fl.* p. 337. *Statice reticulata*, L. Bab. *Man.* 261. 496.

In this genus, the characters given in the two British Floras quoted have been chiefly used.

98. LINUM. Linn. FLAX.

Calyx inferior, of 5 lanceolate, erect, permanent leaves, smaller than the corolla. Petals 5, oblong, obtuse, narrow below, moderately spreading. Filaments 5, subulate, erect, as long as the calyx, and 5 shorter intermediate ones; anthers sagittate. Germen ovate; styles filiform, erect, as long as the stamens; stigmas bluntish, spreading. Capsule nearly globose, obscurely 5-sided, 10-celled, 10-valved. Seeds solitary, ovate, acute, compressed, polished.—Named from the Celtic *lin*, a thread, in Gaelic, flax. 194.

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* *Leaves alternate.*

1. **L. usitatis'simum.** L. *Common Flax.* Sepals ovate, acute, 3-ribbed; petals crenate; leaves lanceolate, alternate; stem commonly solitary, erect.——*Stem* nearly two feet high, straight, round, corymbose at the top: flowers erect, with blue-veined petals. The uses of the fibres of the stem, and the expressed oil of the seeds, are well known. Annual: flowers in July: grows in cultivated fields, but is not indigenous. *Eng. Bot.* vol. xix. pl. 1357. *Eng. Fl.* vol. ii. p. 118. 497.

2. **L. peren'ne.** L. *Perennial Flax.* Sepals obovate, obtuse, obscurely 5-ribbed; leaves narrow-lanceolate, alternate; stems numerous, ascending.——*Root* woody: stems about a foot high: flowers blue, veined. Perennial: flowers in June and July: grows in dry pastures and meadows in England: not common. *Eng. Bot.* vol. i. pl. 40. *Eng. Fl.* vol. ii. p. 118. 498.

3. **L. angustifo'lium.** Huds. *Narrow-leaved Flax.* Sepals elliptical, 3-ribbed; leaves narrow, lanceolate, 3-ribbed; stems numerous, nearly erect.——*Petals* pale-purple. Perennial: flowers in July: grows in sandy pastures in England: not common. *Eng. Bot.* vol. vi. pl. 381. *Eng. Fl.* vol. ii. p. 119. 499.

** *Leaves opposite.*

4. **L. cathar'ticum.** L. *Purging Flax.* Leaves opposite, oblong; stem forked above; petals acute.——*Stem* filiform, from six inches to a foot high: flowers white, at first drooping. Bitter and purgative. Annual: flowers in July and August: grows in dry pastures: common. *Eng. Bot.* vol. vi. pl. 382. *Eng. Fl.* vol. ii. p. 120. 500.

99. SIBBAL'DIA. Linn. SIBBALDIA.

Calyx inferior, with 10 elliptical, spreading, permanent, marginal segments. Petals 5, obovate, tapering at the base. Filaments 5, subulate, shorter than the petals; anthers roundish. Germens 5, sometimes 10, ovate, compressed; styles from the side of each germen, as long as the stamens; stigmas obtuse. Achenia 5, ovate, smooth, compressed, in the bottom of the enlarged calyx, which is closed over them.—Named after *Sir Robert Sibbald*, a Scottish naturalist. 195.

1. **S. procum'bens.** L. *Procumbent Sibbaldia.* Leaves ternate; leaflets cuneiform, with 3 terminal teeth.——*Root* woody, tufted: stems spreading or procumbent, from one to three inches long: calyx large, hairy: petals small, yellow. Perennial: flowers in July: grows on the summits of the higher mountains of Scotland: common. *Eng. Bot.* vol. xiii. pl. 837. *Eng. Fl.* vol. ii. p. 121. 501.

HEXAGYNIA.

100. DRO'SERA. Linn. SUN-DEW.

Calyx inferior, deeply divided into 5 acute, permanent segments. Petals from 5 to 8, nearly ovate, obtuse. Filaments

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from 5 to 8, subulate, as long as the calyx; anthers small roundish. Germen roundish; styles from 6 to 8, simple, as long as the stamens; stigmas clavate. Capsule ovate, 1-celled, with 3 or 4 valves. Seeds numerous, minute, obovate, attached to the middle of each valve.—Name from δροσος, dew. 196.

1. D. rotundifo'lia. L. *Round-leaved Sun-dew.* Leaves round, on hairy stalks; flower-stalks from the root, forming a simple cluster. Leaves from the root, numerous, lying close to the ground, tapering into a flat hairy stalk, and beset with red hairs, discharging a drop of clammy fluid from their tips: petals 5, white. Perennial: flowers in July and August: grows in bogs and on wet heaths: common. *Eng. Bot.* vol. xiii. pl. 867. *Eng. Fl.* vol. ii. p. 122. 502.

2. D. longifo'lia. L. *Long-leaved Sun-dew.* Leaves oblongo-spathulate, on smooth stalks; flower-stalks from the root, forming a simple cluster; seeds with a compact rough coat.——*Leaves* from the root, numerous, ascending, tapering into a flat, smooth stalk, and beset with hairs as in the last species: petals white. Perennial: flowers in July and August: grows in bogs and on wet heaths: not common. *Eng. Bot.* vol. xiii. pl. 868. *Eng. Fl.* vol. ii. p. 123. 503.

3. D. An'glica. Huds. *Great Sun-dew.* Leaves linear-oblong, erect, on smooth stalks; flower-stalks from the root, forming a simple cluster; styles 8; capsules 4-valved; heads with a chaffy coat.——*Twice* the size of the last, with more slender leaves. Perennial: flowers in July and August: grows in bogs and on moist heaths, in England and Scotland: not common. *Eng. Bot.* vol. xiii. pl. 869. *Eng. Fl.* vol. ii. p. 123. 504.

POLYGYNIA.

101. MYOSU'RUS. Linn. MOUSE-TAIL.

Calyx inferior, of 5 lanceolate, concave, spreading, coloured, deciduous sepals, spurred at the base. Petals 5, very small, tubular, and bearing honey at their base, opening obliquely inwards. Filaments 5 or more, linear, as long as the calyx; anthers oblong, erect, of 2 linear cells. Germens very numerous, ovate, on a long, tapering, erect receptacle; styles none; stigmas minute. Seeds oblong, acute, imbricated on the elongated, columnar, acute receptacle.—Named from μυς, a mouse, and ουρα, a tail. 197.

1. M. mi'nimus. L. *Common mouse-tail.*——Root small, fibrous, leaves numerous, rather fleshy, smooth, tapering into longish stalks: flower-stalks several, erect, each bearing a small, pale-yellow flower: germens very numerous, forming a long spike, resembling a mouse's tail. Annual: flowers in May: grows in corn-fields, meadows, and pastures, in gravelly soil, in England and the south of Scotland: not common. *Eng. Bot.* vol. vii. pl. 435. *Eng. Fl.* vol. ii. p. 125. 505.

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Class VI. HEXANDRIA.

Plants bearing Flowers with six Stamens.

Order I. MONOGYNIA. *One Pistil.*

* *Flowers furnished with a calyx and a corolla.*

1. FRANKE'NIA. *Corolla* of 5 petals. *Calyx* of 1 piece, tubular, inferior. *Capsule* 1-celled, many-seeded.
2. BER'BERIS. *Corolla* of 6 concave petals, each with 2 glands at the base. *Calyx* of 6 leaves, inferior. *Berry* 2-seeded.
3. PEP'LIS. *Corolla* of 6 petals. *Calyx* with 6 deep segments and 6 intermediate plaits. *Capsule* 2-celled.
(*Lythrum hyssopifolium.*)

** *Flowers having a single petaloid perianth, superior.*

4. LEUCO'JUM. *Perianth* superior, campanulate, deeply 6-cleft, the segments equal.
5. GALAN'THUS. *Perianth* superior, deeply 6-cleft, the inner 3 segments shorter, notched.
6. NARCIS'SUS. *Perianth* superior, tubular at the base, with the limb 6-cleft, the mouth with a tubular crown.
7. ASPA'RAGUS. *Perianth* inferior, deeply 6-cleft, permanent. *Berry* 3-celled. *Stigmas* 3.

*** *Flowers having a single petaloid perianth, inferior.*

8. CONVALLA'RIA. *Perianth* inferior, 6-cleft, deciduous. *Berry* 3-celled. *Stigma* triangular.
9. POLYGONA'TUM. *Perianth* inferior, cylindrical, 6-cleft, scarcely deciduous. *Berry* 3-celled. *Stigma* obtuse.
10. TULI'PA. *Perianth* inferior, of 6 leaves, campanulate. *Style* none; stigma 3-lobed. *Seeds* flat.
11. FRITILLA'RIA. *Perianth* inferior, of 6 leaves, each with a nectar-bearing hollow at the base on the inside. *Style* trifid. *Seeds* flat.
12. LLOY'DIA. *Perianth* of 6 spreading leaves, each having a transverse nectar-bearing fold at its base. *Style* filiform, stigma trigonous. *Seeds* flat beneath, angular above.
13. ORNITHO'GALUM. *Perianth* inferior, of 6 lanceolate spreading pieces, permanent. *Stamens* dilated at the base; anthers incumbent.
14. GA'GEA. *Perianth* inferior, of 6 spreading leaves. *Stamens* attached by their base; anthers erect, accumbent.
15. SCIL'LA. *Perianth* inferior, of 6 oblong pieces, spreading, deciduous. *Stamens* filiform, inserted on the base of the perianth; anthers incumbent.
16. AL'LIUM. *Perianth* inferior, of 6 ovate pieces. *Stamens* subulate, inserted at the base of the perianth; anthers incumbent. *Stigma* acute. *Seeds* angular.
17. A'GRAPHIS. *Perianth* inferior, narrow campanulate, deeply 6-cleft, deciduous. *Stamens* uniform. *Capsule* 3-celled. *Seeds* globular.
18. MUS'CARI. *Perianth* globose, or subcylindrical, narrowed at the mouth, 6-toothed.

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19. NARTHE'CIUM. *Corolla* inferior, of 6 narrow-lanceolate petals, spreading. *Stamens* hairy.
20. A'CORUS. *Corolla* inferior, of 6 petals. *Style* none. *Seeds* ovate. *Spadix* covered with numerous sessile flowers.

**** *Flowers having a single glumaceous perianth.*

21. JUN'CUS. *Perianth* of 6 leaves. *Capsule* 3-celled, 6-valved. *Seeds* numerous, horizontal.
22. LU'ZULA. *Perianth* of 6 leaves. *Capsule* 1-celled, 3-valved. *Seeds* 3, erect.

(*Peplis portula. Polygonum.*)

Order II. DIGYNIA. *Two Pistils.*

23. OXY'RIA. *Calyx* of 2 leaves. *Petals* 2. *Fruit* 1, compressed, winged.

Order III. TRIGYNIA. *Three Pistils or Stigmas.*

24. RU'MEX. *Calyx* 3-leaved. *Petals* 3. *Fruit* 1, naked, triangular.
25. TOFIEL'DIA. *Calyx* 3-cleft. *Petals* 6. *Capsules* 3, many-seeded.
26. SCHEUCHZE'RIA. *Perianth* of 6 leaves. *Capsules* 3, inflated. *Seeds* solitary.
27. TRIGLO'CHIN. *Calyx* 3-leaved. *Petals* 3. *Capsules* 3-valved, opening at the base.
28. COL'CHICUM. *Perianth* 6-cleft, with a long tube. *Capsules* 3, inflated. *Seeds* numerous.

(*Elatine. Cl. VIII.*)

Order IV. POLYGYNIA. *Pistils numerous.*

29. ALIS'MA. *Calyx* of 3 leaves. *Petals* 3. *Carpels* 6 or more, 2-seeded.
30. ACTINOCAR'PUS. *Calyx* of 3 leaves. *Petals* 3. *Carpels* numerous, 1-seeded.

HEXANDRIA.—MONOGYNIA.

1. FRANKE'NIA. Linn. FRANKENIA.

Calyx inferior, of 1 piece, nearly cylindrical, 5-cornered, permanent; the border with 5 acute teeth. Petals 5, the claws as long as the calyx, the limbs obovate, spreading. Nectary a channelled membrane, on the inner side of each claw. Filaments 6, as long as the calyx; anthers of two roundish lobes. Germen superior, ovate, with 3 furrows; style erect, cylindrical, as long as the stamens; stigmas 3, oblong, erect. Capsule oval, 1-celled, 3-valved. Seeds numerous, ovate, minute.—Named after *John Franken*, a Swedish botanist. 198.

1. F. lævis. L. *Smooth Frankenia. Sea-heath.* Leaves linear, crowded, revolute at the margin, fringed at the base.——*Root* woody: stems prostrate, branched, slightly downy: flowers from the forks of the stem, sessile, solitary, flesh-coloured. Perennial: flowers in July:

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grows in salt marshes on the coast of England: rare. *Eng. Bot.* vol. iii. pl. 205. *Eng. Fl.* vol. ii. p. 186. 505.

2. BER'BERIS. Linn. BARBERRY.

Calyx inferior, of 6 obovate, spreading, coloured leaves, the outer 3 smaller. Petals 6, roundish, spreading, the claw of each having 2 oblong nectariferous glands. Filaments linear, flattened; anthers of 2 separate lobes, on the opposite edges of the top of the filament. Germen superior, oblong; stigma round, broader than the germen, permanent. Berry oblong, 1-celled, pulpy. Seeds 2 or 3, oblong, cylindrical.—Name, *berberys*, the Arabic for the plant. 199.

1. **B. vulga'ris.** L. *Common Barberry.* Racemes pendulous; thorns 3-cleft; leaves obovate, with bristly serratures.——*A bushy* shrub, three or four feet high: flowers bright-yellow: the stamens on being irritated, contract, and thus throw the pollen upon the stigma: berries scarlet, very acid, when boiled with sugar forming a rather agreeable jelly. Perennial: flowers in June: grows in woods and hedges: common. This plant is erroneously said to be prejudicial to growing corn, causing barrenness in the ears. *Eng. Bot.* pl. 49. *Eng. Fl.* vol. ii. p. 184. 507.

3. PEP'LIS. Linn. WATER PURSLANE.

Calyx inferior, of 1 piece, campanulate, large, permanent, with 6 acute segments, and 6 intermediate plaits. Petals 6, very minute, ovate, from the mouth of the calyx. Filaments thread-shaped, incurved, short; anthers roundish. Germen ovate; style cylindrical, very short; stigma round and flat. Capsule globose, 2-celled, with a transverse partition. Seeds numerous, minute, triangular.—Named from πεπλιον, anciently applied to an allied plant. 200.

1. **P. Por'tula.** L. *Common Water Purslane.* Petals generally wanting; leaves opposite, obovate, stalked.——*Stems* numerous, creeping: flowers small, axillar, solitary, reddish. Annual: flowers in July and August: grows in watery places, especially such as become dry in summer: frequent. *Eng. Bot.* vol. xvii. pl. 1121. *Eng. Fl.* vol. ii. p. 187. 508.

4. LEUCO'JUM. Linn. SNOWFLAKE.

Perianth campanulate, of 6 regular, ovate, nearly equal pieces, a little thickened at the point. Filaments short, erect, flattened; anthers linear, 4-cornered. Germen ovate, inferior; style round, blunt; stigma acute, with a bristly point. Capsule turbinate, obtuse, 3-celled, 3-valved. Seeds numerous, globose, with a black, shining testa.—Named from λευκος, white, and ιον, a violet. 201.

1. **L. æsti'vum.** L. *Summer Snowflake.* Flowers several; style clavate.——*About* a foot and a half high: leaves linear, obtuse, with a blunt keel: stalk 2-edged, hollow, bearing 4 or more flowers: petals uniform, each with a green spot on both sides. Perennial:

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flowers in May: grows in moist meadows, near rivers in England: rare, and perhaps not indigenous. Between Greenwich and Woolwich, and in the Isle of Dogs; in an island in the river, near Kendal; at Little Stonham, Suffolk. *Eng. Bot.* vol. ix. pl. 621. *Eng. Fl.* vol. ii. p. 130. 509.

5. GALAN'THUS. Linn. SNOWDROP.

Perianth campanulate, of 6 superior, deciduous pieces; 3 outer oblong, concave, spreading; 3 inner shorter, erect, cuneiform, notched. Filaments capillary, very short; anthers oblong, with a bristly point. Germen globose, inferior; style cylindrical, longer than the stamens; stigma simple, acute. Capsule nearly globose, with 3 blunt angles, 3 cells, and 3 valves. Seeds numerous, globose, with a whitish testa.—Named from γαλα, milk, and ἀνθος, a flower. 202.

1. G. niva'lis. L. *Snowdrop.*——Bulb ovate: leaves keeled, linear, obtuse: stalk three or four inches high, round: a 2-nerved membranous bract or sheath: flower pendulous, with white petals, the 3 inner streaked with green on the inside, and having a spot of the same colour on the outside. Perennial: flowers in February: grows in meadows, hedges, and woods; but not indigenous: common. *Eng. Bot.* vol. i. pl. 19. *Eng. Fl.* vol. ii. p. 129. 510.

6. NARCIS'SUS. Linn. NARCISSUS.

Perianth tubular at the base, its limb spreading, deeply divided into 6 ovate, flat pieces, and having continuous with the tube a funnel-shaped, cup-shaped, or bell-shaped crown or nectary. Filaments subulate, attached to the tube, short; anthers linear. Germen inferior, roundish, with 3 blunt corners; style filiform, triangular, longer than the stamens; stigmas 3-cleft. Capsule roundish, with 3 blunt corners, 3-celled, 3-valved. Seeds numerous, globose.—Named after the youth *Narcissus.* 203.

1. N. poe'ticus. L. *Poetic Narcissus.* Flower solitary; cup of the nectary very short, membranous and notched at the edge; leaves bluntly keeled, with reflexed edges.——*Flower* pure white: the nectary edged with crimson: fragrant. Perennial: flowers in May: grows in dry open fields in the south-east of England: rare. *Eng. Bot.* vol. iv. pl. 275. *Eng. Fl.* vol. ii. p. 131. 511.

2. N. biflo'rus. L. *Pale Narcissus. Primrose-peerless.* Flowers in pairs; cup of the nectary very short, membranous, and notched at the edge: leaves acutely keeled, with reflexed edges.——*Perianth* pale sulphur-yellow or yellowish white: border of the nectary white. Perennial: flowers in April and May: grows in sandy fields in England and Ireland: rare. *Eng. Bot.* vol. ii. pl. 276. *Eng. Fl.* vol. ii. p. 132. 512.

3. Pseu'do-Narcissus. L. *Common Daffodil.* Flowers solitary: cup of the nectary bell-shaped; erect, curled, as long as the ovate segments of the limb.——*Pale-yellow:* nectary deep-yellow, rather funnel-shaped than bell-shaped. Perennial: flowers in March: grows in woods and thickets in England and Ireland: rare. Probably the above three

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species are not indigenous: the two first at least are not. *Eng. Bot.* vol. i. pl. 17. *Eng. Fl.* vol. ii. p. 132. 513.

7. ASPA'RAGUS. Linn. ASPARAGUS.

Perianth inferior, campanulate, divided into 6 equal oblong segments, permanent. Filaments filiform, short; anthers oblong, erect. Germen globose; style very short; stigma 3-lobed. Berry globose, 3-celled. Seeds 1 or 2 in each cell.—Name used by the Greeks, from ασπαιρασσω, to tear. 204.

1. **A. officina'lis.** L. *Common Asparagus.* Stem herbaceous, cylindrical, erect; leaves setaceous, flexible; stipules solitary.——*About* a foot high: leaves tufted, small, bright-green: flowers axillar, 2 or 3 together, greenish-white: berry scarlet. Perennial: flowers in August: grows on the sea-coast in the south and south-west of England, Gosford Links, Scotland: rare. *Eng. Bot.* vol. v. pl. 339. *Eng. Fl.* vol. ii. p. 153. 514.

8. CONVALLA'RIA. Linn. LILY-OF-THE-VALLEY.

Perianth inferior, of 1 piece, campanulate, deciduous, with 6 obtuse segments. Filaments subulate, inserted at the base of the perianth, shorter than the corolla; anthers oblong, erect. Germen globose; style filiform, longer than the stamens; stigma triangular, obtuse. Berry globose, 3-celled. Seeds 1 or 2 in each cell, roundish.—Name from *convallis*, a valley. 205.

1. **C. maja'lis.** L. *Sweet-scented Lily-of-the-Valley.* Leaves 2, radical, elliptical, ribbed, stalked, pale-green: flower-stalk naked, semicylindrical: clustre simple: flowers drooping, cup-shaped, white, elegant, sweet-scented: berry scarlet. Perennial: flowers in May: grows in woods, but has probably been introduced: frequent. *Eng. Bot.* vol. xv. pl. 1035. *Eng. Fl.* vol. ii. p. 154. 515.

9. POLYGONA'TUM. Tournef. SOLOMON'S SEAL.

Perianth inferior, of 1 piece, tubular, with 6 obtuse segments. Filaments subulate, inserted at the middle of the tube of the perianth, shorter than the corolla; anthers oblong, erect. Germen globose; style filiform, longer than the stamens; stigma obtuse. Berry globose, 3-celled, 2-, rarely 1-seeded.—Named from πολυς, many, and γονυ, an angle. 206.

1. **P. verticilla'tum.** L. All. *Narrow-leaved Solomon's Seal.* Leaves narrow-lanceolate, in whorls.——*Stem* erect, about two feet high, naked below, leafy above: flower-stalks axillar, solitary, each bearing from 2 to 4 pendulous white flowers: berry deep-blue. Perennial: flowers in June: grows in woods, in Scotland: very rare. Den Rechip, near Dunkeld, and woods near Blair-Gowrie. *Convallaria v* Linn. *Eng. Bot.* vol. ii. pl. 128. *Eng. Fl.* vol. ii. p. 155. 516.

2. **P. officina'le.** L. All. *Angular Solomon's Seal.* Leaves ovato-elliptical, alternate, half-embracing the stem; flower-stalks axillar, mostly 1-flowered; stamens smooth.——*Stem* from twelve to eighteen inches high: flowers white, with a green line running down each

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segment, which is bearded at the tip: berries black. Perennial: flowers in May and June: grows in rocky mountainous woods, in England: rare. *Convollaria polygonatum.* *Eng. Bot.* vol. iv. pl. 280. *Eng. Fl.* vol. ii. p. 155. 517.

3. P. multiflo'rum. L. All. *Common Solomon's Seal.* Leaves alternate, embracing the stem; flower-stalks axillar, many-flowered; stamens downy.——*Stem* two feet high: flowers from 2 to 5 on each stalk: the segments white, tipped with green: berries bluish-black. Perennial: flowers in May and June: grows in woods and thickets, in England and Scotland: not common. *Convallaria m.* Linn. *Eng. Bot.* vol. iv. pl. 279. *Eng. Fl.* vol. ii. p. 156. 518.

10. TULI'PA. Linn. TULIP.

Perianth inferior, of 6 ovate pieces, campanulate. Filaments erect, flattish; anthers oblong, 4-cornered. Germen superior, oblong, large, with 3 blunt corners; style none; stigma triangular. Capsule triangular, 3-valved, 3-celled. Seeds numerous, ovate, flat.—Named from *Toliban*, the Persian for a turban. 207.

1. T. sylves'tris. L. *Wild Tulip.* Flower rather drooping; leaves lanceolate; stamens hairy at the base.——*Bulb* ovate, stem about a foot high, leafy at the middle; leaves alternate, lanceolate, smooth, clasping the stem: flowers bright-yellow, externally greenish. Perennial: flowers in April: naturalized in chalk-pits and quarries, in various parts of England and Scotland. *Eng. Bot.* vol. i. pl. 63. *Eng. Fl.* vol. ii. p. 140. 519.

11. FRITILLA'RIA. Linn. FRITILLARY.

Perianth inferior, campanulate, of 6 oblong petals. Nectary a cavity at the base of each petal, above. Filaments subulate, shorter than the corolla; anthers oblong, 4-cornered. Germen superior, oblong, trigonal; style simple, long; stigma 3-lobed, downy on the upper side. Capsule oblong, obtuse, 3-lobed, 3-celled, 3-valved. Seeds very numerous, flat.—Name from *fritillus*, a dice-board. 208.

1. F. Melea'gris. L. *Common Fritillary. Snake's Head.* All the leaves alternate, narrow-lanceolate, pointed; stem single-flowered.——*Stem* a foot high: flower terminal, pendulous, chequered with pale and dark purple: the points of the perianth turned inwards. Perennial: flowers in April: grows in moist meadows, in the east and south of England: rare. *Eng. Bot.* vol. ix. pl. 622. *Eng. Fl.* vol. ii. p. 139. 520.

12. LLOY'DIA. Salisb. LLOYDIA.

Perianth inferior, of 6 nearly equal, spreading, persistent pieces. Filaments subulate, glabrous; anthers erect. Germen superior, oblong, trigonal; style erect, filiform; stigma trigonal. Capsule 3-sided, thin. Seeds flat beneath, angulate above.—Named after *Edward Lloyd*, or *Llhwyd*, a Welsh naturalist. 209.

1. L. seroti'na. Reich. *Mountain Lloydia.* Leaves semicylindrical, those on the stem dilated at the base; flower solitary.——

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Stem five or six inches high: flowers erect, white, veined externally with green. Perennial: flowers in June: grows on Snowdon and some other mountains of Wales: very rare. *Anthericum serotinum.* Sm. *Eng. Bot.* vol. xii. pl. 793. *Eng. Fl.* vol. ii. p. 150. 521.

13. ORNITHO'GALUM. Linn. STAR OF BETHLEHEM.

Perianth of 6 inferior, lanceolate pieces, erect at first, then spreading, permanent. Filaments erect, flattish, 3 of them broader at the base; anthers oblong. Germen superior, angular; styles subulate, permanent; stigma blunt. Capsule roundish, angular, 3-celled, 3-valved. Seeds numerous, roundish.—Named from ὄρνις, a bird, and γαλα, milk. 210.

1. **O. pyrena'icum.** L. *Tall Star of Bethlehem.* Raceme very long, filaments lanceolate; flower-stalks equal, spreading, afterwards erect.——*Stalk* two feet high: leaves all radical, linear, channelled, smooth: flowers pale-yellow within, green without. Perennial: flowers in June: grows in pastures in the south of England: rare. *Eng. Bot.* vol. vii. pl. 490. *Eng. Fl.* vol. ii. p. 143. 522.

2. **O. umbella'tum.** L. *Common Star of Bethlehem.* Flowers forming a corymb, the partial stalks taller than the main one; filaments dilated, entire.——*Leaves* radical, linear, channelled, smooth: stalk about six inches high, bearing a corymb of flowers, which are white on the upper side, greenish on the back. Perennial: flowers in April and May: grows in meadows, pastures, and woods, but is not indigenous: rare. *Eng. Bot.* vol. ii. pl. 130. *Eng. Fl.* vol. ii. p. 143. 523.

3. **O. nu'tans.** L. *Drooping Star of Bethlehem.* Flowers forming a loose raceme, drooping, unilateral; filaments broad, cloven, the alternate ones longer, and with deeper lobes.——*Larger* than the last, especially in the flower, which is white on the upper side, green on the back. Perennial: flowers in April and May: grows in fields and orchards in England: rare, and not truly wild. *Eng. Bot.* pl. 1997. *Eng. Fl.* 4th ed. p. 140. 524.

14. GA'GEA. Salisb. GAGEA.

Perianth inferior, narrow below, spreading above, of 6 pieces, without a nectariferous fold at the base. Filaments adhering to the base of the perianth; anthers erect, innate. Germen superior, angular; style trigonal, erect, fistulous; stigma trigonal. Capsule trigonal. Seeds rounded, with a grayish-brown testa.—Named after *Sir Thomas Gage*, an English botanist. 211.

1. **G. lu'tea.** L. Schult. *Yellow Gagea.* Radical leaf erect, linear-lanceolate, carinate, longer than the angular stem; umbel simple; floral leaves 2, longer than the umbel.——*Stem* about six inches high, angular; flowers yellow, tipped with green on the inner side, and nearly green on the outer. Perennial: flowers in April: grows in woods and pastures in several parts of England and Scotland. *Ornithogalum luteum.* *Eng. Bot.* vol. i. pl. 21. *Eng. Fl.* vol. ii. p. 142. 525.

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15. SCIL'LA. Linn. SQUILL.

Perianth of 6 inferior, oblong, spreading pieces. Filaments all filiform, simple, half as long as the petals, inserted at the base of the perianth; anthers oblong. Germen superior, roundish; styles simple, shorter than the stamens, deciduous; stigma simple. Capsule roundish with 3 furrows, 3-celled, 3-valved. Seeds numerous, roundish.—Named from σκυλλω, to injure. 212.

1. **S. ver'na.** Huds. *Vernal Squill.* Corymb hemispherical, few-flowered: bracts lanceolate, obtuse: leaves linear, channelled. ——*Leaves* numerous, deep-green: flowers deep-blue: stalk three or four inches high. Perennial: flowers in April, May, and June: grows in sandy pastures by the sea-shore: rare. Howth and Killiney, Ireland; Isle of Man: Anglesea; Wales, Cornwall, Iona, Staffa, Caithness, Sutherland, Shetland, Orkneys, Barra. *Eng. Bot.* vol. i. pl. 23. *Eng. Fl.* vol. ii. p. 145. 526.

2. **S. autumna'lis.** L. *Autumnal Squill.* Raceme somewhat corymbose, without bracts; leaves linear, numerous.——Flowers rose-coloured: stalk about three inches high. Perennial: flowers in September: grows in dry pastures in the south of England: rare. *Eng. Bot.* vol. ii. pl. 78. *Eng. Fl.* vol. ii. p. 146. 527.

16. AL'LIUM. Linn. GARLICK.

Perianth of 6 inferior, ovate or oblong, regular pieces, the 3 inner somewhat smaller. Filaments subulate, flattened, as long as the corolla; anthers solitary, oblong. Germen superior, turbinate, angular; style simple, erect; stigma acute. Capsule 3-lobed, 3-celled, 3-valved. Seeds few, roundish, angular.—Name said to be from *all*, Celtic, acrid. 213.

* *Stem leafy. Leaves flat.*

1. **A. Ampelopra'sum.** L. *Great Round-headed Garlick.* Umbel globose, without bulbils; 3 alternate filaments, their anther-bearing point as long as the common filament, deeply 3-cleft.——*Bulb* compound: stem from two to five feet high: leaves long, linear: flowers uniform, pale-purple, unaccompanied by bulbils. Perennial: flowers in August: Isle of Holmes in the Severn, where it was formerly cultivated. *Eng. Bot.* vol. xxiv. pl. 1657. *Eng. Fl.* vol. ii. p. 133. 528.

2. **A. Babingto'ni.** Borr. *Bulbilliferous Great Round-headed Garlick.* Umbel globose, with large spherical bulbils; stem leafy below; leaves flat, acutely keeled; 3 alternate filaments deeply 3-cleft, their anther-bearing point rather shorter than the common filament. ——*Stem* from four to six feet high; leaves long, linear: flowers pale reddish-purple, intermixed with numerous large bulbils. Perennial: flowers in August: Cornwall and Galway. Borrer, in *Eng. Bot. Suppl.* pl. 2906. 529.

3. **A. Scorodopra'sum.** L. *Sand Garlick.* Umbel globose, few-flowered, with numerous spherical bulbils; stamens included or equalling the perianth, 3 alternate filaments 3-cleft, their anther-

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bearing point shorter than the common filament; leaves linear, flat; sheaths 2-edged.——*Bulb* simple, with numerous offsets; stem two or three feet high, slender, solid: flowers purple: bulbils deep-purple. Perennial: flowers in June and July. In sandy soil, in woods and fields in the north of England and Scotland. *Eng. Bot. Suppl.* pl. 2905. 530.

4. **A. olera'ceum.** L. *Streaked Field Garlick.* Umbel loose, bearing bulbils; stamens simple, subulate. Two varieties are included, which may be species:—*α.* Leaves of equal thickness throughout, their margins curved upwards, with numerous ribs on both sides. *A. carinatum.* Sm. *Eng. Bot.* vol. xxiv. pl. 1658. *Eng. Fl.* vol. ii. p. 135. *β.* Leaves thick, semicylindrical, channelled above, ribbed beneath. *A. oleraceum.* Sm. *Eng. Bot.* vol. vii. pl. 488. *Eng. Fl.* vol. ii. p. 136. Perennial: flowers in July: the first variety grows in sandy ground on the borders of fields; the other in dry mountainous pastures. 531.

** *Stem leafy. Leaves fistulous.*

5. **A. Schœnopra'sum.** L. *Chive Garlick.* Umbel many-flowered, globose, without bulbils; stamens simple; stem with 1 leaf, or naked; leaves cylindrical, somewhat tapering towards the point. ——*Stem* about a foot high, with 1 leaf, or naked: flowers purple. Perennial: flowers in June and July: grows in meadows and pastures in England and Scotland. Used as a pot-herb. *Eng. Bot.* vol. xxxiv. pl. 2441. A variety with spreading curved leaves, said to be *A. sibirium* of Linnæus, occurs in Cornwall. *Eng. Bot. Suppl.* pl. 2934. 532.

6. **A. vinea'le.** L. *Crow Garlick.* Umbel spherical, bearing bulbils; leaves cylindrical, smooth; 3 alternate stamens deeply 3-cleft. ——*Flowers* small, pale rose-coloured, with green keels: bulbs greenish. Perennial: flowers in July: grows in dry pastures, corn-fields, &c.: common. *Eng. Bot.* vol. xxviii. pl. 1974. *Eng. Fl.* vol. ii. p. 137. 533.

7. **A. sphærocе'phalum.** L. *Small Round-headed Garlick.* Umbel spherical, without bulbils; leaves nearly cylindrical, smooth, channelled above. *Stem* leafy below: capsule triangular, with blunt edges: bulb accompanied by stalked offsets. Perennial: flowers in June and July: grows on the sands of St. Aubin's bay, Jersey, where it was discovered by Messrs. Babington and Christy. *Eng. Bot. Suppl.* pl. 2813. *Brit. Fl.* 4th ed. p. 140. 534.

*** *Leaves all radical.*

8. **A. ursi'num.** L. *Broad-leaved Garlick, Ramsons.* Leaves between ovato-lanceolate, stalked; scape triangular; umbel level at the top.——*Leaves* 1 or 2, large, bright-green: flowers pure white, with acute petals. Perennial: flowers in May and June: grows in moist woods, hedges, and meadows: common. *Eng. Bot.* vol. ii. pl. 122. *Eng. Fl.* vol. ii. p. 138. 535.

17. A'GRAPHIS. Link. BLUE-BELL.

Perianth inferior, deciduous, with a somewhat bell-shaped tube, and 6-cleft reflexed limb. Filaments subulate, equal, inserted below the middle of the perianth; anthers oblong.

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Germen superior, roundish, with 3 corners and 3 grooves; style simple, shorter than the tube, deciduous; stigma obtuse. Capsule roundish, 3-cornered, 3-celled, 3-valved. Seeds few, globose.—Name from α, not, and γραφω, to write, there being no marks on the leaves. 214.

1. **A. non-scriptus.** L. *Common Blue-bell. Wild Hyacinth.* Cluster drooping: flowers hanging, the points of the petals reflexed; bracts in pairs.——*Leaves* long, linear, channelled, pale green: stalks about a foot high: flowers pale-blue. Perennial: flowers in May: grows in thickets, woods, fields, &c.: abundant. *Eng. Bot.* vol. vi. pl. 377. *Eng. Fl.* vol. ii. p. 147. 536.

18. MUS'CARI. Tourn. GRAPE-HYACINTH.

Perianth inferior, of one piece, globose or subcylindrical, contracted at the mouth, 6-toothed. Filaments very short, not decurrent on the perianth, subulate; anthers oblong. Germen superior, roundish, with 3 corners and 3 grooves; style shorter than the tube; stigma obtuse. Capsule roundish, 3-cornered, 3-celled. Seeds 2 in each cell, globose.—Name from μοσχος, musk. 215.

1. **M. racemo'sum.** Miller. *Starch Grape-Hyacinth.* Flowers ovate, with 6 furrows; leaves linear, channelled, flaccid.——*Leaves* numerous, deep-green: stalk solitary, erect, round, shorter than the leaves: flowers dark-blue, smelling like starch. Perennial: flowers in May: grows in grassy fields, or among ruins, in England, but not truly wild: rare. *Eng. Bot.* vol. xxvii. pl. 1931. *Eng. Fl.* vol. ii. p. 149. 537.

19. NARTHE'CIUM. Huds. BOG-ASPHODEL.

Perianth of 6 equal, lanceolate, spreading, permanent pieces. Filaments 6, subulate, woolly; anthers small, oblong. Germen superior, oblong, triangular; style conical, short; stigma simple. Capsule oblong, pointed, bluntly triangular, 3-celled, 3-valved. Seeds numerous, erect, small, oblong.—Name from ναρθηξ, a rod. It is also an anagram of *Anthericum.* 216.

1. **N. Ossi'fragum.** Huds. *Bog-Asphodel.* Raceme uninterrupted; 1 bract at the base, another above the middle of each partial stalk. ——*Six* or eight inches high: leaves gladiate, equitant, those on the stem much smaller: flowers yellow, green on the back. Perennial: flowers in June and July: grows on wet heaths: frequent. *Eng. Bot.* vol. viii. pl. 535. *Eng. Fl.* vol. ii. p. 151. 538.

20. A'CORUS. Linn. SWEET FLAG.

Spadix naked, cylindrical, simple, covered with sessile flowers. Perianth of 6 inferior, equal, obtuse, concave pieces. Filaments thickish, erect, a little longer than the petals; anthers thick, terminal, 2-lobed. Germen superior, oblong, as long as the stamens; style none; stigma hemispherical. Capsule baccate, triangular, abrupt, 3-celled. Seeds several, ovate.—

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Named from α, without, and κορη, the pupil of the eye, in diseases of which it was once used. 217.

1. A. Ca'lamus. L. *Sweet Flag. Myrtle Flag.* Leafy summit of flower-stalk rising far above the spadix.——*Leaves* erect, gladiate, two or three feet high: stalk like the leaves, not quite so high: flowers crowded, pale-green: the whole plant is aromatic, especially the root. Perennial: flowers in May and June: grows on the banks of rivers, having a muddy bottom, in England: and a few places in the south-west of Scotland. *Eng. Bot.* vol. v. pl. 356. *Eng. Fl.* vol. ii. p. 157. 539.

21. JUN'CUS. Linn. RUSH.

Perianth inferior, of 6 oblong, acute, permanent leaves, 3 of them internal. Filaments filiform, short; 3 of them sometimes wanting; anthers oblong, erect, 2-celled. Germen superior, triangular; styles simple, cylindrical, short; stigmas 3, elongated, downy. Capsule triangular, 3-celled, 3-valved. Seeds numerous, minute, roundish.—Named from *jungo*, to join, the stems having been employed as cordage. 218.

* *No leaves.*

1. J. acu'tus. L. *Great Sharp Sea Rush.* Stem naked, cylindrical, sharp-pointed; panicle dense, near the summit; bract spinous; capsule roundish, twice as long as the calyx.——*Root* fibrous: stems from three to six feet high, erect, straight, stiff: panicle lateral, corymbose, many-flowered: capsule broadly ovate, triangular, sharp-pointed, brown. Perennial: flowers in July: grows on the sea-coast, in deep sand. In Merionethshire, Norfolk, Lancashire, and Devonshire; Wicklow and Arklow, Ireland: rare. *Eng. Bot.* vol. xxiii. pl. 1614. *Eng. Fl.* vol. ii. p. 159. 540.

2. J. mari'timus. Sm. *Lesser Sharp Sea Rush.* Stem naked, cylindrical, sharp-pointed; panicle loose, near the summit; bract spinous; capsule oblong, as long as the calyx.——*Root* fibrous: stems about three feet high, more slender than the last: capsule prismatic. Perennial: flowers in August: grows in salt marshes: rare. *Eng. Bot.* vol. xxiv. pl. 1725. *Eng. Fl.* vol. ii. p. 159. 541.

3. J. Bal'ticus. Willd. *Baltic Rush.* Stems naked, straight, acute; panicle erect, branched, few-flowered; bract shorter than the panicle; capsule elliptical.——*Root* creeping: stems about a foot high, smooth, with brown scales at the base: panicle near the top of the straw, dense: bract membranous: leaves of the perianth lanceolate, bluntish, dark-brown. Perennial: flowers in July and August. Discovered by Mr. Drummond, on the sands of Barry, near Dundee: South Uist abundant: Cape Wrath: Morayshire, Aberdeenshire. *Eng. Bot. Suppl.* pl. 2621. *Eng. Fl.* vol. ii. p. 163. 542.

4. J. glau'cus. Ehrh. *Hard Rush.* Stem naked, straight, deeply striate; panicle erect, much branched, capsule elliptical, pointed, shorter than the calyx.——*Root* creeping, black: stems stiff and tough, glaucous, deeply striate, about two feet high: panicle about half way between the root and summit, cymose, nearly erect: leaves of the perianth subulate, pale-green, with a broad green

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line down the middle of the base. Perennial: flowers in July: grows in wet places, by ditches, &c.: common. *Eng. Bot.* vol. x. pl. 665. *Eng. Fl.* vol. ii. p. 160. 543.

5. **J. diffu'sus.** Hoppe. *Loose-flowered Rush.* "Stem naked, finely striate, rigid; pith continuous; panicle loose, much branched, erect; segments of perianth lanceolate-subulate, longer than the obovate-obtuse, mucronate capsule. Hoppe in St. 77. 10.—Very similar to the preceding, but capsule much smaller. St. Green, Stam. 6. In wet places: rare." Bab. *Man.* p. 329. Supposed to be only a variety of *J. Glaucus.* Perennial: flowers in July and August. 544.

6. **J. effu'sus.** L. *Soft Rush.* Stem naked, straight, faintly striate: panicle loose, repeatedly compound; capsule obtuse, a little shorter than the calyx. ——*Root* creeping: stems soft and pliant, pale-green, about two feet high: panicle very loose, about half-way down the stem: leaves of the perianth finely pointed. The pith of this and the following species is used for rush-lights: the straws are plaited into chair-bottoms and mats. Perennial: flowers in July: grows in wet meadows and pastures: common. *Eng. Bot.* vol. xii. pl. 836. *Eng. Fl.* vol. ii. p. 162. 545.

7. **J. conglomera'tus.** L. *Common Rush.* Stem naked, straight, faintly striate; panicle very dense, globular, repeatedly branched; capsule abrupt; stamens 3.——*Root* creeping: stems soft, pliant, about two feet high: panicle forming a dense globular head of brown flowers: leaves of the calyx pointed: the straw is larger than in the last species, and the pith is consequently better for rush-lights, or wicks to lamps. Perennial: flowers in July: grows in wet grounds: common. *Eng. Bot.* vol. xii. pl. 835. *Eng. Fl.* vol. ii. p. 161. 546.

8. **J. filifo'rmis.** L. *Slender Rush.* Stem naked, slender, drooping; panicle few-flowered, corymbose; capsule nearly globular.——*Root* creeping: stems very slender, pliant, pale-green, about a foot high: flowers from 5 to 8. Perennial: flowers in August: grows on the margins of lakes, in the north of England, and some parts of Scotland: rare. *Eng. Bot.* vol. xvii. pl. 1175. *Eng. Fl.* vol. ii. p. 162. 547.

** *Stems leafy.*

9. **J. acutiflo'rus.** Ehrh. *Sharp-flowered Rush.* Leaves apparently jointed, somewhat compressed; panicle repeatedly compound, terminal; leaves of the perianth lanceolate, nearly as long as the narrow ovate, taper-pointed capsule.——*From* one to two feet high: flowers greenish-brown. Perennial: flowers in July and August: grows in bogs, ditches, &c.: very common. *Eng. Bot.* vol. xxx. pl. 2143. *Eng. Fl.* vol. ii. p. 174. 548.

10. **J. lamprocar'pus.** Ehrh. *Shining-fruited Rush.* Leaves apparently jointed, compressed; panicle repeatedly compound, terminal, erect, 3 inner leaves of the perianth rather blunt; capsule ovate, acute, longer than the calyx, shining.——*From* one to two feet high. Perennial: flowers in July and August: grows in bogs and ditches: common. *Eng. Bot.* vol. xxx. pl. 2143. *Eng. Fl.* vol. ii. p. 175. 549.

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11. **J. nigritel'lus.** D. Don. *Black-headed Jointed Rush.* Leaves and stem somewhat rounded; panicle slightly compound, erect; sepals acute, shorter than the linear-oblong, trigonous, rostrate capsule.——*Stem* erect, from six inches to a foot high. Similar to the last; but with the leaves scarcely at all compressed, and the capsules more abruptly pointed. Perennial: flowers in July and August: grows in marshy places on the Clova mountains. *Eng. Bot. Suppl.* pl. 2643 550.

12. **J. obtusiflo'rus.** Ehrh. *Blunt-flowered Rush.* Leaves apparently jointed, cylindrical; panicle very much compounded, spreading; leaves of the calyx very obtuse, as long as the capsule. Stems with internal partitions, about two feet high. Perennial: grows in marshy places: not common. *Eng. Bot.* vol. xxx. pl. 2144. *Eng. Fl.* vol. ii. p. 176. 551.

13. **J. casta'neus.** Sm. *Clustered Alpine Rush.* Stem simple, rounded, leafy; leaves flat, keeled; heads terminal, mostly in pairs, many-flowered, with leafy-bracts; capsule twice as long as the calyx.——*Root* creeping: stems solitary, erect, from eight to twelve inches high. Perennial: flowers in July: grows in the Highlands of Scotland, and in the north of England: rare. *Eng. Bot.* vol. xiii. pl. 900. *Eng. Fl.* vol. ii. p. 174. 552.

14. **J. uligino'sus.** Sibth. *Little Bulbous Rush.* Stem branched, leafy, bulbous at the base; leaves bristle-shaped, channelled; heads lateral and terminal, about 3-flowered; capsule obtuse, longer than the calyx.——*Stems* from two to six inches high. Perennial: flowers in June and July: grows in wet places: common. *Eng. Bot.* vol. xii. pl. 801. *Eng Fl.* vol. ii. p. 169. 553.

15. **J. tri'fidus.** L. *Three-leaved Rush.* Stem with 1 leaf; radical leaves very few; bracts 3, leafy; a terminal head of about 3 flowers.——*Root* creeping: stems crowded, thread-shaped, erect, from four to six inches high: radical leaves 1 or 2, very short: bracts 3, at the top of the stem, resembling leaves. Perennial: flowers in July: grows plentifully in rocky places on the higher mountains of Scotland. *Eng. Bot.* vol. xxi. pl. 1482. *Eng. Fl.* vol. ii. p. 163. 554.

16. **J. compres'sus.** Jacq. *Round-fruited Rush.* Straw simple, compressed, leafy below; leaves linear, incurved at the edges; panicle cymose, terminal, shorter than the bract: capsule roundish, longer than the calyx.——*Root* creeping: stems erect, from six to twelve inches high: unbranched, round and leafy below, naked and compressed above: leaves acute, channelled. Perennial: flowers in July and August: grows in moist pastures: common. *Eng. Bot.* vol. xiii. pl. 934. *Eng. Fl.* vol. ii. p. 165. A variety of this plant, common in salt marshes, with a nearly simple few-flowered panicle longer than the bract, is the *J. cœnosus, Mud Rush. Eng. Bot. Suppl.* pl. 2680. *Eng. Fl.* vol. ii. p. 166. 555.

17. **J. te'nuis.** Willd. *Slender-spreading Rush.* Stem simple, naked above; leaves linear, slightly channelled; panicle terminal, compound; leaves of the perianth lanceolate, taper-pointed, 3-ribbed, longer than the capsule.——*Root* fibrous: stem erect, very slender, about a foot high: leaves very few, radical: leaves of the calyx green, 3-ribbed, acute. Perennial: flowers in July: found on the

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mountains of Clova, by Mr. G. Don. *Juncus gracilis. Eng. Bot.* vol. xxxi. pl. 2174. *J. Gesneri. Eng. Fl.* vol. ii. p. 167. 556.

*** *Leaves all radical.*

18. **J. bufo'nius.** L. *Toad Rush.* Stem branched, leafy; leaves angular, channelled; panicle forked, longer than the bracts; leaves of the perianth lanceolate, taper-pointed, membranous, 2-ribbed, longer than the capsule.——*Root* fibrous: stems numerous, crowded, from 4 inches to a foot high. Annual: flowers in July and August: grows in marshy ground, ditches, &c.: common. *Eng. Bot.* vol. xii. pl. 802. *Eng. Fl.* vol. ii. p. 168. 557.

19. **J. squarro'sus.** L. *Moss Rush, Heath Rush.* Stem naked; leaves radical, numerous, rigid, channelled; panicle terminal, compound; capsule inversely ovate.——*Root* tufted: stems erect, about a foot high, bluntly triangular. Perennial: flowers in June and July: grows on wet heaths: abundant. *Eng. Bot.* vol. xiii. pl. 933. *Eng. Fl.* vol. ii. p. 164. 558.

20. **J. capita'tus.** Weigel. *Dense-headed Rush.* Stem erect, simple, leafy at the base; leaves bristle-shaped, channelled; heads lateral and terminal: leaves of the perianth keeled, bristle-pointed, twice as long as the capsule; stamens 3.——*Root* fibrous: stems from two to four inches high. Annual: flowers in the summer months: grows in sandy ground in the island of Jersey. *Eng. Fl.* vol. ii. p. 170: *J. supinus. Bicheno, Lin. Tr.* vol. xii. p. 317. 559.

21. **J. bigln'mis.** L. *Two-flowered Rush.* Stem erect, simple, leafy at the base; leaves flat; head solitary, of 2 flowers, overtopped by a leafy bract.——*Root* fibrous: stems from two to four inches high: flowers terminal: capsule longer than the calyx. Perennial: flowers in August: grows on the higher mountains of Scotland: rare. *Eng. Bot.* vol. xiii. pl. 898. *Eng. Fl.* vol. ii. p. 172. 560.

22. **J. trigln'mis.** L. *Three-flowered Rush.* Stem erect, simple, leafy below; leaves flat; head solitary, terminal, of 3 flowers, with elliptical bracteas.——*Roots* creeping: stems from three to six inches high. Perennial: flowers in July: grows on the higher mountains of Wales, the north of England, and Scotland. *Eng. Bot.* vol. xiii. pl. 899. *Eng. Fl.* vol. ii. p. 173. 561.

22. LU'ZULA. De Cand. WOOD RUSH.

Perianth inferior, of 6 oblong, acute, permanent leaves, 3 of them internal. Filaments threadlike, short; anthers oblong, erect, 2-celled. Germen superior, triangular; style simple, thread-shaped, short; stigmas 3, tapering, downy. Capsule triangular, 1-celled, 3-valved. Seeds 3, at the bottom of the capsule.—Name altered from *lucciola*, or *luzziola*, a glow-worm. 219

1. **L. pilo'sa.** Willd. *Broad-leaved Hairy Wood Rush.* Panicle cymose, widely spreading; flowers solitary; capsule pointless; leaves of the perianth long-pointed, shorter than the capsule.——*Stem* about a foot high: leaves between linear and lanceolate, ribbed, fringed with long, white hairs. Perennial: flowers in April and May: grows in woods and thickets: common. *Eng. Bot.* vol. xi. pl. 736. *Eng. Fl.* vol. ii. p. 178. 562.

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2. **L. Forste'ri.** De C. *Narrow-leaved Hairy Wood Rush.* Panicle cymose, erect; flowers solitary; capsule pointed; leaves of the perianth long-pointed, a little longer than the capsule.——*More* slender than the last, and the leaves much narrower. Perennial: flowers in April and May: grows in woods and thickets: frequent. *Eng. Bot.* vol. xviii. pl. 1293. *Eng. Fl.* vol. ii. p. 179. 563.

3. **L. sylva'tica.** Bich. *Great Wood Rush.* Panicle cymose, doubly compound; flowers aggregate; capsule pointed; leaves of the perianth awned, as long as the capsule.——*From* two to three feet high: leaves broad, hairy on the edges, the root-leaves forming a large tuft. Perennial: flowers in May: grows in woods and shady places: common. *Eng. Bot.* vol. xi. pl. 737. *Eng. Fl.* vol. ii. p. 180. 564.

4. **L. campes'tris.** Br. *Field Rush.* Panicle of 3 or 4 ovate, dense clusters; capsule obovate, obtuse, with a small point; leaves of the perianth long-pointed, longer than the capsule.——*Root* scaly, creeping, tufted: stems from three to ten inches high, simple, straight; leaves dark-green, very hairy at the margin: leaves of the perianth lanceolate, pointed, dark-brown. Perennial: flowers in April and May: grows in dry pastures: frequent. *Eng. Bot.* vol. x. pl. 672. *Eng. Fl.* vol. ii. p. 181. A large variety of this plant, with the flowers collected into a nearly round head, is the *L. congerta, Many-headed Bog Wood Rush,* of many botanists. *Eng. Bot. Suppl.* pl. 2719. *Eng. Fl.* vol. ii. p. 181. 565.

5. **L. spica'ta.** De C. *Spiked Wood Rush.* Panicle compound, dense, oblong, drooping; capsule elliptical, with a small point; leaves of the perianth between taper-pointed and awned, as long as the capsule.——*From* six to eight inches high: leaves small, somewhat channelled, hairy at the margins of the sheaths. Perennial: flowers in July: grows on the higher mountains of Scotland and Westmoreland. *Eng. Bot.* vol. xvii. pl. 1176. *Eng. Fl.* vol. ii. p. 182. 566.

6. **L. arcua'ta.** Hook. *Curved Mountain Wood Rush.* Panicle somewhat umbellate, partly compound, with drooping branches; capsule elliptical, shorter than the lanceolate, acute leaves of the perianth.——*Stem* three or four inches high: root-leaves numerous, linear, channelled, slightly hairy: stem-leaves flatter. Perennial: flowers in July: grows on the summits of some of the highest mountains of the Cairngorm Range in Scotland. *Flora Lond.* N.S. pl. 153. *Eng. Bot. Suppl.* pl. 2688. *Eng. Fl.* vol. ii. p. 183. 567.

DIGYNIA.

23. OXYRIA. Hill. MOUNTAIN-SORREL.

Calyx inferior, of 2 opposite, lanceolate, permanent leaves. Petals 5, obovate, erect, permanent. Filaments subulate, shorter than the calyx; anthers erect, 2-lobed. Germen superior, ovate, compressed, with membranous edges, cleft; styles very short, erect; stigmas in many tufted segments. Ache-

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nium ovate, compressed, with a dilated, membranous wing.—Named from ὀξυς, acid. 220.

1. O. reniformis. Hook. *Kidney-leaved Mountain-sorrel.*——*Stem* from six inches to a foot high, almost leafless: leaves almost all radical, numerous, reniform, rather succulent: panicle erect, branched: flowers small, drooping. Perennial: flowers in June: grows on moist rocks and by rills, on the higher mountains of Scotland, Wales, the north of England, and Ireland; abundant. *Eng. Bot.* vol. xiii. pl. 910. *Eng. Fl.* vol. ii. p. 188. 568.

TRIGYNIA.

24. RUMEX. Linn. DOCK-SORREL.

Calyx inferior, of 3 obtuse, permanent leaves. Petals 3, larger than the calyx, and similar in colour, but thinner and more veiny, permanent, ultimately enlarged and converging round the seed. Filaments filiform, very short; anthers erect, oblong, 2-lobed. Germen superior, triangular; styles filiform, spreading, standing out between the petals; stigma large, in many tufted segments. Achenium triangular.—Name of unknown origin. 221.

* *Flowers all perfect.*

1. R. sanguineus. L. *Bloody-veined Dock.* Enlarged petals entire, oblong, one at least bearing a tubercle; leaves lanceolate, somewhat cordate.——*Stem* two or three feet high, erect, branched, leafy, reddish. Leaves all stalked, slightly curled at the edges, with bright-red or green veins. Perennial: flowers in July: grows in woods and waste places; frequent. *Eng. Bot.* vol. xxii. pl. 1533. *Eng. Fl.* vol. ii. p. 190. 569.

2. R. crispus. L. *Curled Dock.* Enlarged petals entire, ovate, all bearing a tubercle; leaves lanceolate, wavy, acute; upper whorls leafless.——*Stem* two or three feet high, erect, panicled, leafy: clusters of numerous tufts or whorls, of drooping flowers. A very troublesome weed. Perennial: flowers in July: grows in pastures, waste places, &c.: common. *Eng. Bot.* vol. xxviii. pl. 1998. *Eng. Fl.* vol. ii. p. 191. 570.

3. R. pratensis. Mert. and Koch. *Meadow Dock.* Enlarged petals unequal, toothed at the base, with an entire triangular point, one bearing a tubercle; leaves lanceolate, wavy; clusters nearly leafless, whorls distinct.——*Similar* to the preceding, but differing in the less crowded clusters, and the broader and less curled leaves. Perennial: flowers in June and July: grows in marshy ground: probably of common occurrence throughout the country. *Eng. Bot. Suppl.* pl. 2757. *Brit. Fl.* 4th ed. p. 150. 571.

4. R. aquaticus. L. *Grainless Water Dock.* Enlarged petals broadly cordate, reticulated, without tubercles, leaves lanceolate, the lower between oblong and cordate, curled and waved; whorls crowded, mostly leafless.——*Found* by Mr. Goldie, near Ayr, and first de-

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scribed as British by Sir W. J. Hooker. *Brit. Fl.* p. 168. *Eng. Bot. Suppl.* pl. 2698. 572.

5. **R. alpi'nus.** L. *Alpine Dock.* Enlarged petals cordate, reticulated, obscurely toothed, one bearing a small tubercle; leaves broadly cordate, obtuse; whorls leafless, crowded; flowers monoecious.——*Perennial:* flowers in July: grows by road-sides, but is not indigenous: rare, and not indigenous. Found by Sir W. J. Hooker and Mr. Berkeley in Glen Luss, and at the head of the Gareloch. *Eng. Bot. Suppl.* pl. 2694. *Brit. Fl.* 4th ed. p. 151. 573.

6. **R. conglomera'tus.** Murr. *Sharp-leaved Dock.* Enlarged petals oblong, obscurely toothed, all bearing a tubercle; leaves between oblong and cordate, pointed; clusters leafy.——*Stem* about two feet high, angular, furrowed, leafy, alternately branched: leaves stalked: branches loose, bearing numerous distinct whorls of flowers. Perennial: flowers in July: grows in watery places: not uncommon. *Rumex conglomeratus.* Hook. and Arn. *Brit. Fl.* p. 359. Bab. *Man.* p. 271. *Rumex acutus.* Sm. *Eng. Bot.* vol. xi. pl. 724. *Eng. Fl.* vol. ii. p. 192. 574.

7. **R. pu'lcher.** L. *Fiddle Dock.* Enlarged petals toothed, one principally bearing a tubercle; root-leaves lyrate; stem smooth, spreading.——*Stems* often procumbent: root-leaves on long stalks: stem-leaves numerous, alternate, lanceolate, whorls of flowers numerous. Perennial: flowers in August: grows in dry pastures, by road-sides, among rubbish, &c.: common. *Eng. Bot.* vol. xx. pl. 1576. *Eng. Fl.* vol. ii. p. 193. 575.

8. **R. mari'timus.** L. *Golden Dock.* Enlarged petals triangular, fringed with slender teeth, bearing a tubercle; leaves linear; whorls crowded.——*Stem* from one to two feet high, angular, furrowed, leafy: leaves stalked: flowers very numerous, in dense leafy whorls. Whole plant ultimately assuming a golden colour. Perennial: flowers in July and August: grows in marshes, principally near the sea: frequent. *Eng. Bot.* vol. xi. pl. 725. *Eng. Fl.* vol. ii. p. 194. 576.

9. **R. palus'tris.** Sm. *Yellow Marsh Dock.* Enlarged petals lanceolate, toothed at the base, bearing a tubercle; leaves between linear and lanceolate; whorls distant.——*Stem* two feet high, nearly erect, branched, furrowed, leafy: leaves stalked: flowers in distant whorls. Perennial: flowers in July and August: grows in marshes, ditches, and boggy grounds: common. *Eng. Bot.* vol. xxvii. pl. 1932. *Eng. Fl.* vol. ii. p. 113. 577.

10. **R. obtusifo'lius.** L. *Broad-leaved Dock.* Enlarged petals toothed, one principally bearing a tubercle; root-leaves cordate at the base, rather obtuse; stem roughish.——*Stems* about three feet high, erect, branched, furrowed, leafy: root-leaves very large, the others more narrow, all notched and curled more or less at the edges. A troublesome weed. Perennial: flowers in July and August: grows about houses, in waste places, and fields: common. *Eng. Bot.* vol. xxviii. pl. 1999. *Eng. Fl.* vol. ii. p. 192. 578.

11. **R. Hydrola'pathum.** Huds. *Great Water Dock.* Enlarged petals ovate, nearly entire, unequally tubercled; leaves lanceolate, acute at both ends; whorls rather crowded, almost leafless.——*Stem* from four to six feet high, erect, hollowed, furrowed, branched,

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leafy: leaves stalked, leathery: the tubercles on the petals vary in size and shape. The root is highly astringent. Perennial: flowers in July and August: grows in ditches and by rivers: frequent. *Eng. Bot.* vol. xxx. pl. 2104. *Eng. Fl.* vol. ii. p. 195. 579.

** *Staminiferous flowers and pistilliferous flowers, on separate plants.*

12. **R. Aceto'sa.** L. *Common Sorrel.* Enlarged petals bearing tubercles; leaves oblong, sagittate.——*Stem* from one to two feet high, erect, hollow, striate, leafy. The whole plant is powerfully acid, and the leaves are sometimes eaten as salad. Perennial: flowers in the summer months; grows in pastures, cultivated fields, and by roads and hedges: abundant. *Eng. Bot.* vol. ii. pl. 127. *Eng. Fl.* vol. ii. p. 196. 580.

13. **R. Acetosel'la.** *Sheep's Sorrel.* Enlarged petals destitute of tubercles; leaves halbert-shaped.——*Stem* from four inches to a foot high, erect, leafy. The whole plant is powerfully acid, but less juicy than the preceding. Perennial: flowers in the summer months: grows in pastures, cultivated fields, and waste places: common. *Eng. Bot.* vol. xxiv. pl. 1674. *Eng. Fl.* vol. ii. p. 197. 581.

25. TOFIEL'DIA. Huds. TOFIELDIA.

Calyx inferior, small, of 1 leaf, 3-cleft, permanent. Petals 6, oblong, equal, permanent, many times longer than the calyx. Filaments subulate, simple, as long as the corolla; anthers cordate, fixed sideways. Germen 3-cornered; styles subulate, spreading; stigmas knobbed. Capsules 3, connected at the base, each 1-celled, 2-valved. Seeds numerous, oblong, angular.—Named after *Mr. Tofield*, an English botanist. 222.

1. **T. calycula'ta.** L. *Scottish Tofieldia.* Flowers in an ovate head, stem filiform, smooth, leafless; petals obovate; germens roundish. ——*Leaves* gladiate, in 2-rowed tufts: stem four or five inches high: flowers greenish-white. Perennial: flowers in August: grows in boggy places, on the mountains of Scotland, the north of England and Ireland: frequent. The Linnæan specific name must be restored in this and all similar cases. *Anthericum calyculatum*, Linn. *Tofieldia palustris* of authors. *Eng. Bot.* vol. viii. pl. 536. *Eng. Fl.* vol. ii. p. 198. 582.

26. SCHEUCHZE'RIA. Linn. SCHEUCHZERIA.

Perianth of 6 inferior, oblong, acute, recurved, permanent leaves. Filaments filiform, shorter than the petals; anthers terminal, linear, 2-celled. Germens 3, superior, ovate, compressed. Styles none; stigmas oblong, obtuse. Capsules 3, roundish, compressed, pointed, each 1-celled, 2-valved. Seeds solitary, oblong.—Named after the three *Scheuchzers*, Swiss botanists. 223.

1. **S. palus'tris.** L. *Marsh Scheuchzeria.* Root long, creeping. ——*Stems* erect, simple, wavy, six inches high: leaves few, alternate, semicylindrical, obtuse: flowers about 5, in a terminal cluster. Perennial: flowers in June: grows in wet spongy mountain bogs: very rare. Lakeby Car, Yorkshire; near Shrewsbury; Thorne Moor, near Doncaster; Methven, near Perth. *Eng. Bot.* pl. 1801. 583.

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27. TRIGLO'CHIN. Linn. ARROW-GRASS.

Calyx inferior, of 3 roundish, deciduous leaves. Petals 3, ovate, a little longer than the calyx. Filaments very short; anthers large, roundish, 2-lobed. Germen superior, large, oblong; styles none; stigmas 3 or 6, reflexed, feathery. Capsule oblong, with as many cells as there are stigmas. Seeds solitary, oblong, pointed.—Named from τρεις, three, and γλωχις, a point. 223.

1. **T. palus'tre.** L. *Marsh Arrow-grass.* Capsule 3-celled, nearly cylindrical.——*Root* fibrous: leaves all radical, linear, channelled, smooth, nearly erect: flowers in a long terminal spike, reddish-green. Perennial: flowers in June and July: grows in wet meadows: common. Cattle are fond of it. *Eng. Bot.* vol. vi. pl. 366. *Eng. Fl.* vol. ii. p. 200. 584.

2. **T. mari'timum.** L. *Sea Arrow-grass.* Capsule 6-celled, ovate. ——*Leaves* radical, semi-cylindrical. Larger than the last. It has a salt taste, and cattle, especially cows, are fond of it. Perennial: flowers in June and July: grows in salt marshes, and pastures overflowed by the tide: common. *Eng. Bot.* vol. iv. pl. 255. *Eng. Fl.* vol. ii. p. 201. 585.

28. COL'CHICUM. Linn. COLCHICUM.

Perianth single; tube angular, arising from the root; limb divided into 6 oblong, erect segments. Filaments subulate, shorter than the perianth; anthers oblong, 2-celled, 4-valved. Germen imbedded in the root, roundish; styles 3, filiform, as long as the stamens; stigmas linear, recurved, channelled, downy. Capsules 3, superior, stalked, oblong, each 1-celled. Seeds numerous, round.—Named from the country of *Colchis.* 224.

1. **C. autumna'le.** L. Leaves lanceolate, erect, flat.——*In* spring several narrow leaves arise, but the flower does not appear until September. The germen lies buried in the root all winter, and is raised in spring to perfect its seeds through the summer. Flower pale-purple. Perennial: flowers in September and October: grows in moist meadows in many parts of England: rare. The roots have a good deal of acrimony. An infusion of them in vinegar, formed into a syrup by the addition of sugar or honey, is said to be a good expectorant and diuretic. *Eng. Bot.* vol. ii. pl. 133. *Eng. Fl.* vol. ii. p. 202. 586.

POLYGYNIA.

29. ALIS'MA. Linn. WATER PLANTAIN.

Calyx inferior, of 3 ovate, permanent leaves. Petals 3, roundish, much larger than the sepals, deciduous. Filaments subulate, short; anthers roundish. Germens superior, nume-

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rous; styles simple; stigmas blunt. Capsules compressed, 1-celled. Seeds small, solitary.—Named from *alis*, the Celtic for water. 225.

1. **A. Planta'go.** L. *Great Water Plantain.* Leaves cordato-ovate, acute; capsules obtusely triangular.——*Root* fibrous: leaves all radical, on long stalks, erect: flower-stalks several feet high, panicled: flowers terminal, solitary, white or pale-purplish. Perennial: flowers in July: grows in ditches, pools, lakes, and rivers: common. *Eng. Bot.* vol. xii. pl. 837. *Eng. Fl.* vol. ii. p. 203. 587.

2. **A. natans.** L. *Floating Water Plantain.* Leaves elliptical, obtuse; capsules striate; flower-stalks simple.——*Stems* floating, filiform, from three to ten feet long. Flower-stalks from the joints of the stem, erect, single-flowered. Petals large, white, with a yellow spot near the claw. Perennial: flowers in July and August: grows in lakes: rare. North Wales and Cumberland. Near Stranraer, Scotland. Howth Hill and Cunnamara, Ireland. *Eng. Bot.* vol. xi. pl. 775. *Eng. Fl.* vol. ii. p. 204. 588.

3. **A. ranunculoi'des.** L. *Lesser Water Plantain.* Leaves between linear and lanceolate; capsules angular, acute, numerous, in a globular head; stem none.——*Root* fibrous: leaves all radical, erect, on long stalks: flower-stalks radical, erect, from 3 to 10 inches high, with 1 or 2 whorls of pale-purplish flowers. Perennial: flowers in August: grows in ditches and bogs: not common. *Eng. Bot.* vol. v. pl. 326. *Eng. Fl.* vol. ii. p. 205. 589.

30. ACTINOCAR'PUS. Br. STAR-FRUIT.

Calyx inferior, of 3 ovate, permanent leaves. Petals 3, roundish, much larger than the sepals, deciduous. Filaments subulate, short; anthers roundish. Germens superior, numerous; styles simple; stigmas blunt. Capsules numerous, 1-celled. Seeds small, 2 in each capsule.—Named from *ἀκτὶν*, a ray, and *καρπος*, a fruit. 226.

1. **A. Damaso'nium.** L. Br. *Common Star-fruit.* Leaves oblong, cordate at the base; capsules subulate; carpels 6.——*Root* fibrous: leaves all radical, floating: flower-stalks about six inches high, bearing 1 or 2 whorls of white flowers. Perennial: flowers in June and July: grows in ditches and pools in England: not common. *Alisma Damasonium*, Linn. Sm. *Eng. Bot.* vol. xxiii. pl. 1615. *Eng. Fl.* vol. ii. p. 204. 590.

CLASS VII. HEPTANDRIA.

Plants bearing Flowers with Seven Stamens.

Order I. MONOGYNIA. *One Pistil.*

1. **TRIENTA'LIS.** *Calyx* of 7 leaves. *Corolla* deeply divided into 7 segments. *Capsule* 7-valved.

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HEPTANDRIA.—MONOGYNIA.

1. TRIENTA'LIS. Linn. CHICKWEED WINTER-GREEN.

Calyx inferior, of 7 linear, acute, spreading, permanent leaves. Corolla rotate, deeply divided into 7 elliptical, flat, spreading segments. Filaments filiform, spreading, shorter than the corolla; anthers oblong, recurved. Germen superior, round. Style cylindrical, as long as the stamens; stigma obtuse. Capsule globose, 1-celled, 7-valved. Seeds few, roundish, tunicated. —Name of unknown origin. 227.

1. T. Europæ'a. L. *European Chickweed Winter-green.* Leaves oblong; stem solitary, simple, erect, from three to six inches high, crowned with a tuft of leaves.——*A* singularly elegant and beautiful plant: flower-stalks from among the leaves, filiform, simple: flowers white, often tinged with red, and sometimes having only 6 segments, with 6 stamens, or, on the other hand, 8 or 9. Perennial: flowers in June and July: grows in woods and on dry heaths in the north of England: in Scotland abundant, north of the Clyde and Forth. *Eng. Bot.* vol. i. pl. 15. *Eng. Fl.* vol. ii. p. 208. 591.

CLASS VIII. OCTANDRIA.

Plants bearing Flowers with Eight Stamens.

Order I. MONOGYNIA. *One Pistil.*

* *Flowers having both calyx and corolla.*

1. A'CER. *Petals* 5. *Calyx* 5-cleft, inferior. *Capsule* winged.
2. EPILO'BIUM. *Petals* 4. *Calyx* 4-cleft, superior. *Capsule* 4-celled. *Seeds* bearded.
3. ŒNOTHE'RA. *Petals* 4. *Calyx* 4-cleft, superior. *Capsule* 4-celled. *Seeds* beardless.
4. CHLO'RA. *Corolla* deeply divided into 8 or 6 segments. *Calyx* of 8 or 6 leaves, inferior. *Capsule* 1-celled.
5. CALLU'NA. *Corolla* of 1 petal. *Calyx* double, each 4-leaved. *Capsule* superior; partitions from the column, alternate with the valves, and unconnected with them.
6. ERI'CA. *Corolla* of 1 petal. *Calyx* of 4 leaves. *Capsule* superior; partitions simple, from the centre of the valves.
7. MENZIE'SIA. *Corolla* of 1 petal. *Calyx* of 1 leaf. *Capsule* superior; partitions double, from the margin of the valves.
8. VACCI'NIUM. *Corolla* of 1 petal. *Calyx* 4-cleft. *Berry* inferior.

(*Monotropa.*)

** *Flowers having a single perianth.*

9. DAPH'NE. *Calyx* 4-cleft, coloured, inferior. *Berry* 1-seeded.

Order II. DIGYNIA. *Two Pistils.*

(*Polygonum. Chrysosplenium. Scleranthus.*)

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Order III. TRIGYNIA. *Three Pistils.*

10. POLY'GONUM. *Perianth* divided into 5 deep segments, coloured, inferior. *Corolla* none. *Achenium* trigonal.

Order IV. TETRAGYNIA. *Four Pistils.*

11. PA'RIS. *Calyx* 4-leaved. *Petals* 4, subulate. *Berry* 4-celled.
12. ADO'XA. *Calyx* half-inferior. *Corolla* divided into 4 or 5 segments. *Berry* 4- or 5-celled.
13. ELATI'NE. *Calyx* 4-leaved. *Petals* 4. *Capsule* superior, 4-celled.

(*Sagina. Rhodiola.*)

OCTANDRIA—MONOGYNIA.

1. A'CER. Linn. MAPLE.

Calyx inferior, with 5 oblong, acute segments. Petals 5, obovate, of the same size as the segments of the calyx. Filaments subulate, short; anthers roundish, 2-lobed. Germen superior, 2-lobed, compressed; style cylindrical; stigmas 2 or 3, pointed. Capsules 2 or 3, united at the base, roundish, compressed, each terminating in a membranous wing. Seeds 1 or 2, roundish.—Name, *acer*, sharp, the wood having been employed for spears. 228.

1. **A. Pseu'do-pla'tanus.** L. *Greater Maple*, or *Sycamore. Plane-tree.* Leaves 5-lobed, unequally serrate; flowers in compound, pendent racemes.——*A large* tree, common, but not indigenous: flowers in May: grows in woods: common. *Eng. Bot.* vol. v. pl. 303. *Eng. Fl.* vol. ii. p. 230. 592.

2. **A. campes'tre.** L. *Common Maple.* Leaves 5-lobed, entire at the margin, the lower lobes notched; flowers in erect corymbose racemes.——*A tree* with cracked, corky bark. The wood is fine-grained and hard, and is much used by turners: flowers in May and June: grows in woods: common. *Eng. Bot.* vol. v. pl. 304. *Eng. Fl.* vol. ii. p. 231. 593.

2. EPILO'BIUM. Linn. WILLOW-HERB.

Calyx superior, deeply divided into 4 oblong, coloured, deciduous segments. Petals 4, circular, broadest at the outer part, notched, inserted between the segments of the calyx. Filaments subulate, 4 alternate, shorter; anthers oval, compressed, obtuse. Germen inferior, cylindrical, very long; style filiform; stigma thick, blunt, generally 4-cleft. Capsule quadrangular, very long, 4-celled, 4-valved; partitions opposite the valves. Seeds numerous, oblong, small, crowned with a tuft of hairs.—Name from επι, upon, and λοβος, a pod. 229.

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** Flowers irregular.*

1. **E. angustifo'lium.** L. *Rose-bay Willow-herb.* Leaves scattered, between linear and lanceolate, veined, smooth; petals unequal; stamens declining.——*Stems* from three to six feet high: flowers rose-coloured, numerous, in long, terminal, erect clusters. Perennial: flowers in July and August: grows in moist meadows, shady, and rocky places: not common. *Eng. Bot.* vol. xxviii. pl. 1947. *Eng. Fl.* vol. ii. p. 212. 594.

*** Flowers regular. Stigma deeply 4-cleft.*

2. **E. hirsu'tum.** L. *Great Hairy Willow-herb.* Leaves ovato-lanceolate, half embracing the stem, hairy; stem very much branched; root creeping.——*Stems* about four feet high: flowers in leafy clusters, large, of a fine rose-colour: the top shoots have a delicate fragrance. Perennial: flowers in July: grows in watery places, ditches, on banks of rivers and lakes: common. *Eng. Bot.* vol. xii. pl. 838. *Eng. Fl.* vol. ii. p. 213. 595.

3. **E. parvifo'rum.** Schreb. *Small-flowered Hoary Willow-herb.* Leaves lanceolate, sessile, downy; stem little branched, woolly; root fibrous.——*Stems* about two feet high: flowers small, pale rose-colour. Perennial: flowers in July: grows in watery places, ditches, &c.: very common. *Eng. Bot.* vol. xii. pl. 795. *Eng. Fl.* vol. ii. p. 214. 596.

4. **E. monta'num.** L. *Broad Smooth-leaved Willow-herb.* Leaves ovate, toothed, nearly opposite; stem round; stigma in four deep segments.——*Stem* from one to two feet high, erect: lower leaves opposite, upper alternate: flowers light-purple, not numerous. Perennial: flowers in July: grows in dry shady places: common. It varies much in size, branching, and the form of the leaves. *E. lanceolatum*, Seb. and Mauri., which occurs in Jersey, has the leaves all stalked, lanceolate, with a cuneiform base. *Eng. Bot.* vol. xxvii. pl. 1177. *Eng. Fl.* vol. ii. p. 214. 597.

**** Flowers regular. Stigma undivided.*

5. **E. ro'seum.** Schreb. *Pale Smooth-leaved Willow-herb.* Leaves ovate, toothed, opposite; stem obscurely 4-cornered; stigma undivided, clavate.——*Leaves* smooth, thin, and delicate; flowers light-purple. Perennial: flowers in July: grows in waste boggy grounds or watery places: rare. *Eng. Bot.* vol. x. pl. 693. *Eng. Fl.* vol. ii. p. 215. 598.

6. **E. tetra'gonum.** L. *Square-stalked Willow-herb.* Leaves lanceolate, sessile, minutely toothed; stem 4-cornered; stigma undivided.——*Stem* from twelve to eighteen inches high: flowers pale-purple, few, in leafy clusters. Perennial: flowers in July: grows in marshes and by the sides of ditches and rivulets: common. *Eng. Bot.* vol. xxviii. pl. 1948. 599.

7. **E. palus'tre.** L. *Round-stalked Marsh Willow-herb.* Leaves narrow, lanceolate, sessile, slightly toothed; stem round; stigma undivided.——*Stem* from six to eighteen inches high: flowers pale-purple, in leafy clusters. Perennial: flowers in July: grows in marshes, and by the sides of ditches and rivulets: common. *Eng. Bot.* vol. v. pl. 346. *Eng. Fl.* vol. ii. p. 216. 600.

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8. **E. alsinifo'lium.** Vill. *Chickweed-leaved Willow-herb.* Leaves ovate, acute, toothed, nearly sessile; stem decumbent at the base, bluntly 4-cornered; root creeping.——*Stems* about six inches long: flowers rose-coloured. Perennial: flowers in June and July: grows on the edges of mountain rills, in the north of England and in the Highlands of Scotland. *Eng. Bot.* vol. xxviii. pl. 2000. *Eng. Fl.* vol. ii. p. 216. *Fl. Scot.* p. 117. 601.

9. **E. alpi'num.** L. *Alpine Willow-herb.* Leaves elliptical, obtuse, nearly entire, on short stalks; stem decumbent, 2- or 3-flowered; root creeping.——*Stems* three or four inches long: flowers generally 2, rose-coloured. Perennial: flowers in June and July: grows on the edges of rills on almost all the Highland mountains. *Eng. Bot.* vol. xxviii. pl. 2001. *Eng. Fl.* vol. ii. p. 217. 602.

3. ŒNOTHE'RA. Linn. EVENING PRIMROSE.

Calyx superior, deciduous; tube cylindrical, limb deeply divided into 4 oblong segments. Petals 4, obcordate, attached to the summit of the tube of the calyx, and as long as the limb. Filaments subulate, incurved, shorter than the petals; anthers oblong. Germen inferior, oblong, furrowed; stigma divided into 4 obtuse spreading segments. Capsule oblong, bluntly quadrangular, 4-celled, 4-valved. Seeds numerous, angular, beardless.—Name from οἶνος, wine, and θηρα, catching, the root having the odour of wine. 230.

1. **Œ. bien'nis.** L. *Common Evening Primrose.* Leaves ovato-lanceolate, flat; stem rough, somewhat hairy; petals undivided. ——*Stem* two or three feet high, leafy, angular: leaves alternate, acute, toothed, downy: flowers numerous, bright-yellow, in terminal spikes. Biennial: flowers in July, August, and September: grows on sand-banks on the west coast of England; also in corn-fields: an American species naturalized. *Eng. Bot.* vol. xxi. pl. 1534. *Eng. Fl.* vol. ii. p. 211. 603.

4. CHLO'RA. Linn. YELLOW-WORT.

Calyx inferior, of 8 linear, spreading, permanent leaves. Corolla salver-shaped; the tube shorter than the calyx; the limb with 8 elliptical segments, longer than the tube. Filaments filiform, short; anthers linear, erect. Germen superior, oblong; style cylindrical, erect; stigmas 2, oblong, cleft. Capsule ovate, 1-celled, 2-valved. Seeds very numerous, angular. —Named from χλωρος, pale green. 213.

1. **C. perfolia'ta.** L. *Perfoliate Yellow-wort.* Leaves ovate, opposite, united; panicle many-forked, many-flowered.——*Stem* about a foot high, erect, round, panicled: flowers numerous, bright-yellow. Annual: flowers in July and August: grows in chalky and hilly ground: not common. *Eng. Bot.* vol. i. pl. 60. *Eng. Fl.* vol. ii. p. 218. 604.

5. CALLU'NA. Salisb. LING.

Calyx inferior, permanent, of 4 elliptical, coloured, polished leaves, concealing the corolla, and having externally 4 oblong

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bracts. Corolla campanulate, deeply 4-cleft, erect, much shorter than the calyx. Filaments filiform, short, curved; anthers erect, terminal, lanceolate, united before bursting, with 2 deflexed bristles at the base. Germen superior, orbicular, depressed; style cylindrical, erect; stigma knobbed, with 4 notches. Capsule orbicular, 4-valved, 4-celled; the partitions unconnected with the valves, fixed to a central column, seeds numerous, small, oblong.—Name from καλλυνω, to cleanse or adorn. 232.

1. C. vulga'ris. L. Salisb. *Common Ling or Heather.* A bushy shrub, from six inches to four feet high; stem irregularly branched: leaves somewhat sagittate, closely imbricated on the young branches, which have a 4-cornered figure: inner calyx rose-coloured: corolla paler. There is a variety with white flowers. Flowers in August: grows on heaths: common. This plant makes very durable thatch, is capable of being converted into ropes for various purposes, forms excellent brooms, and affords a fine yellow dye. Grouse feed almost exclusively upon it and *Erica cinerea.* *Erica vulgaris,* Linn. *Eng. Bot.* vol. xv. pl. 1013. *Eng. Fl.* vol. ii. p. 225. 605.

6. ERI'CA. Linn. HEATH.

Calyx inferior, of 4 oblong, permanent leaves. Corolla ovate or campanulate, 4-cleft, withering. Filaments capillary; anthers terminal, erect, cleft, united before bursting. Germen superior, roundish; style filiform, erect; stigma obtuse. Capsule roundish, 4-celled, 4-valved, each valve bearing a partition from the centre. Seeds numerous, minute.—Named from ἐρεικω, to break, on account of its supposed property of destroying stone. 233.

1. E. cine'rea. L. *Common Heath. Fine-leaved Heath.* Anthers with two serrate appendages at the base, included; style a little prominent; stigma knobbed; leaves 3 together, linear, keeled, acute.——*Stem* a foot or more high, branched: leaves narrow, glabrous, shining: flowers numerous, in dense terminal clusters, drooping, purplish-red. It is applied to the same purposes as *Calluna vulgaris.* A shrub: flowers in July and August: grows on heaths abundantly. *Eng. Bot.* vol. xv. pl. 1015. *Eng. Fl.* vol. ii. p. 226. 606.

2. E. tet'ralix. L. *Cross-leaved Heath.* Anthers with 2 simple bristles at the base, included; style about the length of the corolla; leaves fringed, 4 together, linear, revolute at the margin, ciliate. ——*Stems* from six to twelve inches high, branched below: leaves crowded, spreading, lanceolate, 4 together, in a whorl, downy and bristly: flowers in dense terminal clusters, rose-coloured, sometimes white. A shrub: flowers in July and August: grows in boggy heaths: not uncommon. *Eng. Bot.* vol. xv. pl. 1014. *Eng. Fl.* vol. ii. p. 226. A variety of this species with border leaves, and having the style a little longer than the corolla, found in Cunnamara, Ireland, is considered by many botanists as specifically dis-

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tinct from the present. It is the *E. Mackáii, Mackay's Heath.* Comp. to *Bot. Mag.* vol. i. p. 159. 607.

3. **E. cilia'ris.** L. *Fringed Heath.* Anthers without appendages, inclosed in the ovate, inflated corolla, of which the mouth is oblique; leaves 4 together, glandular.——*A shrub,* with long straggling stems, short branches, and ending in a long unilateral raceme of large oblong purple flowers, as large as those of *Menziesia cærulea:* flowers in June and July: grows in boggy ground in Cornwall; near Corfe Castle, Dorset; and near Clifton, Galway. *Eng. Bot. Suppl.* pl. 2618. *Brit. Fl.* 4th ed. p. 159. 608.

4. **E. mediterra'nea.** L. *Mediterranean Heath.* Anthers without appendages, protruded as well as the style; corolla urciolate, narrow; leaves 4 together.——*A shrub,* from two to three or four feet high: flowers in April. Discovered in 1830 by Mr. Mackay in boggy ground, Cunnamara, covering a large space of ground; also found in other parts of Ireland. *Eng. Bot. Suppl.* pl. 2774. 609.

5. **E. va'gans.** L. *Cornish Heath.* Anthers without appendages, protruded as well as the style; corolla campanulate; leaves 4 together. ——*Stems* about two feet high, branched: leaves linear, smooth: flower-stalks axillar, crowded together for a large space about the middle of each branch: flowers rose-red. A shrub, from one to two feet high: flowers in July and August: grows on heaths in Cornwall abundantly, and on the coast of Waterford. *Eng. Bot.* vol. i. pl. 3. *Eng. Fl.* vol. ii. p. 227. 610.

7. MENZIE'SIA. Sm. MENZIESIA.

Calyx inferior, 4-cleft or 5-cleft, permanent. Corolla inflated, deciduous; limb divided into 4 or 5 spreading segments. Filaments 8 or 10, filiform, shorter than the corolla; anthers oblong, cleft at the base. Germen superior, roundish; style angular, erect; stigma obtuse, with 4 or 5 notches. Capsule oblong, with 4 or 5 valves and cells; partitions double, formed by the inflexed edges of the valves. Seeds numerous, small, oblong.—Named after *Archibald Menzies,* a Scottish botanist. 234.

1. **M. polifo'lia.** Juss. *Irish Menziesia.* Leaves ovate, the margins revolute, white and downy beneath; flowers 4-cleft, octandrous, in terminal leafy clusters.——*Stems* bushy, a foot or more high: leaves rather crowded: flowers drooping, purplish-red, sometimes white. A shrub: flowers in June and July: grows on mountainous heaths in the counties of Mayo and Galway. *Eng. Bot.* vol. i. pl. 35. *Eng. Fl.* vol. ii. p. 223 611.

2. **M. cœru'lea.** Sm. *Scottish Menziesia.* Leaves linear, obtuse, with cartilaginous teeth; flowers 5-cleft, decandrous.——*Stem* four or five inches high, decumbent below, leafy above: flowers 4 or 5 at the top of the highest branch, drooping: corolla pale-purple. A shrub: flowers in June and July. Sow of Athol, Dalnaspidal, Perthshire; said to be nearly, if not entirely, extirpated by a nurseryman. *Eng. Bot.* vol. xxxv. pl. 2469. *Eng. Fl.* vol. ii. p. 222. 612.

8. VACCI'NIUM. Linn. WHORTLE-BERRY.

Calyx superior, very small, permanent, 4-toothed. Corolla

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campanulate, with 4 revolute segments. Filaments subulate, flattened, fixed to the receptacle; anthers oblong, with 2 points, erect, terminal. Germen inferior, roundish; style simple, cylindrical, erect, longer than the stamens; stigma obtuse. Berry globose, with a depression at the top, 4-celled. Seeds few, small.—Name of unknown origin. 235.

* *Leaves deciduous.*

1. V. **Myrtil'lus.** L. *Black Whortle-berry. Bilberry. Blaeberry.* Flower-stalks solitary, 1-flowered; leaves ovate, serrate, smooth; stem and branches acutely angular.——*Stem* bushy, from one to two feet high, smooth, green: leaves stalked, thin, deciduous: corolla pale reddish-purple: berry bluish-black. The berries are agreeable and wholesome, but stain the lips and fingers of a dark purple colour: they are eaten by grouse, crows, and other birds. A shrub: flowers in May: grows on heaths and hilly ground: common. *Eng. Bot.* vol. vii. pl. 456. *Eng. Fl.* vol. ii. p. 219. 613.

2. V. **uligino'sum.** L. *Bog Whortle-berry. Great Bilberry.* Flower-stalks 1-flowered; leaves obovate, entire, smooth; branches round.——*About* 2 feet high: corolla flesh-coloured: berry large, bluish-black. A shrub: flowers in May: grows on boggy mountainous heaths in the north of England and in Scotland. *Eng. Bot.* vol. ix. pl. 581. *Eng. Fl.* vol. ii. p. 219. 614.

** *Leaves evergreen.*

3. V. **Vi'tis-idæ'a.** L. *Red Whortle-berry. Cowberry. Cranberry.* Clusters terminal, drooping; leaves obovate, revolute, minutely toothed, dotted beneath; corolla campanulate.——*Stems* from three to six inches high: flowers flesh-coloured: berry deep-red, very acid and rather harsh, but often made into jelly and rob. A shrub: flowers in June: grows on dry heaths: frequent. *Eng. Bot.* vol. ix. pl. 598. *Eng. Fl.* vol. ii. p. 220. 615.

4. V. **Oxycoc'cos.** *Marsh Whortle-berry. Cranberry.* Flowers terminal; leaves ovate, entire, revolute, acute; stems creeping, filiform, smooth; corolla deeply 4-cleft.——*Stems* slender, prostrate: flowers several together, pale-red: berry deep-red. The berries made into tarts are much esteemed. A small trailing shrub: flowers in June: grows in boggy heaths: frequent. *Eng. Bot.* vol. v. pl. 319. *Eng. Fl.* vol. ii. p. 221. 616.

9. DAPH'NE. Linn. SPURGE-LAUREL.

Perianth inferior, tubular, withering; tube cylindrical, closed, longer than the limb, which is divided into 4 ovate, coloured segments. Filaments short, in 2 rows; anthers roundish, 2-celled, erect. Germen ovate; style very short; stigma knobbed, depressed. Berry oval, 1-celled. Seed single, oval, large.—Named after the nymph *Daphne.* 236.

1. D. **Meze'reum.** L. *Fragrant Spurge-laurel. Mezereum. Spurge-olive.* Flowers sessile on the stem, generally three together; leaves lanceolate, deciduous.——*A shrub* four or five feet high: flowers rose-coloured, highly fragrant: flowers in February and March: grows in woods in the south of England: rare: probably not indi-

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genous. The whole plant is very acrid. *Eng. Bot.* vol. xx. pl. 1381. *Eng. Fl.* vol. ii. p. 228. 617.

2. **D. Laure'ola.** L. *Common Spurge-laurel.* Racemes axillar, simple, each of about 5 flowers, drooping; leaves lanceolate or obovate, evergreen.——*A shrub* about three feet high: flowers deep green. The whole plant is acrid, like the preceding. Flowers in March: grows in woods and hedges, but often planted: rare. *Eng. Bot.* vol. ii. pl. 119. *Eng. Fl.* vol. ii. p. 229. 618.

TRIGYNIA.

10. POLY'GONUM. Linn. KNOT-GRASS.

Perianth inferior, turbinate, coloured, deeply divided into 5 ovate, permanent segments. Filaments variable in number, subulate, very short; anthers roundish. Germen superior, roundish, triangular, or compressed. Styles generally 3, in some species 2, filiform, very short; stigmas simple. Achenium triangular, or compressed, pointed.—Named from πολυς, many, and γονυ, a knee or joint. 237.

1. **P. Bistor'ta.** L. *Bistort Knot-grass. Great Bistort. Snake-weed.* Stem simple, bearing a single dense cylindrical raceme; leaves ovate, waved, running down into the foot-stalks.——*Stems* erect, about two feet high, leafy: flowers rose-coloured. Perennial: flowers in June: grows in pastures and meadows: frequent. *Eng. Bot.* vol. viii. pl. 509. *Eng. Fl.* vol. ii. p. 236. 619.

2. **P. vivi'parum.** L. *Viviparous Knot-grass. Alpine Bistort.* Stem simple, bearing a single slender raceme; leaves lanceolate, revolute at the margin.——*Stem* from three to eight inches high, erect, leafy, the lower leaves oblong or elliptical: flowers pale-red. Perennial: flowers in June and July: grows in mountain pastures: frequent. *Eng. Bot.* vol. x. pl. 669. *Eng. Fl.* vol. ii. 237. 620.

3. **P. avicula're.** L. *Common Knot-grass.* Flowers axillar, leaves lanceolate, rough-edged; stem procumbent; fruit about as long as the perianth.——*Stems* several, spreading in all directions; leaves alternate, stalked: flowers 2 or 3 together, reddish. Annual: flowers in summer and autumn: grows in fields, waste places, by roads, &c.: common. *Eng. Bot.* vol. xviii. pl. 1252. *Eng. Fl.* vol. ii. p. 238. 621.

4. **P. Rober'ti.** Lois. *Robert's Knot-grass.* Flowers axillar; leaves lanceolate, distant; fruit longer than the perianth, smooth. ——*A large* straggling species, appearing intermediate between the preceding and following. Annual: flowers in August and September: grows on the sea-shore: common. *Eng. Bot. Suppl.* pl. 2805. *Brit. Fl.* 4th ed. p. 163. 622.

5. **P. mari'timum.** L. *Sea-side Knot-grass.* Flowers axillar; leaves lanceolate, fleshy, glaucous, crowded; fruit longer than the calyx, smooth.——*Annual:* flowers in August and September: grows in the south of England, and the Channel Islands on the sea-shore. *Eng. Bot. Suppl.* pl. 2804. *Brit. Fl.* 4th ed. p. 164. 623.

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6. **P. Fagopy'rum.** L. *Buck-wheat Knot-grass. Branks.* Leaves between cordate and sagittate; stem nearly erect, without prickles; angles of the fruits equal.——*Racemes* many-flowered, panicled, spreading: flowers variegated with red, green, and white: the seeds furnish a nutritious meal, which in some parts of England is made into thin cakes called crumpets. It is usual for farmers to sow a crop of buck-wheat, and plough it down for manure. Annual: flowers in July and August: grows in cultivated fields, but is not indigenous. *Eng. Bot.* vol. xv. pl. 1044. *Eng. Fl.* vol. ii. p. 239. 624.

7. **P. Convol'vulus.** L. *Bindweed Knot-grass. Black Bindweed.* Leaves between cordate and sagittate; stem twining, angular; segments of the calyx bluntly keeled; fruit striate with minute points. ——*Stem* twining to the height of several feet; racemes loose, interrupted, leafy: flowers greenish-white or reddish. Annual: flowers from June to October; grows in corn-fields, gardens, and waste ground: common. *Eng. Bot.* vol. xiv. pl. 941. *Eng. Fl.* vol. ii. p. 240. 625.

8. **P. dumeto'rum.** L. *Copse Buck-wheat Knot-grass.* Leaves between cordate and sagittate; stem twining, striate; segments of the perianth with a membranous wing; fruit oblong and shining. ——*Annual:* flowers in August and September: grows in hedges and by roadsides: rare. Near London and Norwich: Sussex. Near Moffat, Dumfriesshire. *Brit. Fl.* 4th ed. p. 164. 626.

** *Styles usually two.*

9. **P. amphi'bium.** L. *Amphibious Knot-grass* or *Persicaria.* Styles 2, united half-way up; stamens 5; spike ovate; leaves lanceolate.——*Stem* round, leafy: leaves stalked, floating, minutely serrate, smooth, slightly cordate at the base: flowers rose-red, in beautiful dense spikes. When the plant grows out of the water, the leaves become narrower, stiffer, and hairy, and the stem shorter. Perennial: flowers in July and August: grows in ditches, ponds, and rivers: common. *Eng. Bot.* vol. vii. pl. 435. *Eng. Fl.* vol. ii. p. 232. 627.

10. **P. Persica'ria.** L. *Spotted Knot-grass* or *Persicaria.* Styles 2, united half-way up; stamens 6; spikes dense, oblong, erect; peduncles nearly smooth; stipules fringed.——*Stem* erect, branched, leafy: leaves lanceolate, entire, shortly stalked, generally marked about the middle with a blackish spot: flowers rose-coloured. Annual: flowers in July and August: grows in ditches and wet fields: common. *Eng. Bot.* vol. xi. pl. 756. *Eng. Fl.* vol. ii. p. 233. 628.

11. **P. la'xum.** Reich. *Slender-headed Knot-grass* or *Persicaria.* Styles 2, united at the base; stamens 6; spikes slender, long, erect; peduncles and perianth glandular and scabrous; stipules shortly fringed.——*Stem* often prostrate; leaves lanceolate, slightly wavy, white and woolly beneath. Annual: flowers in July and August: grows in damp gravelly places in the south of England. Bab. in *Eng. Bot. Suppl.* pl. 2822. 629.

12. **P. lapathifo'lium.** L. *Pale-flowered Knot-grass* or *Persicaria.* Styles 2, distinct; stamens 6; flower-stalks rough; stipules not fringed.——*Stem* about a foot high, branched, swelled above the joints: leaves broadly lanceolate, rough-edged, sometimes marked with a blackish spot: flowers reddish or pale-green. Annual:

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flowers in July and August: grows in cultivated ground and on dung-hills: common. *Eng. Bot.* vol. xx. pl. 1382. *Eng. Fl.* vol. ii. p. 234. 630.

13. P. Hydropi'per. L. *Biting Persicaria.* Styles 2, united half-way up; stamens 6; spikes loose, interrupted, drooping; stem erect; leaves lanceolate, waved, without spots; stipules shortly fringed.——*Stem* two feet high, swelled above each joint, smooth: clusters terminal, long and slender: flowers pale-green. The whole plant has an acrid burning taste, which is supposed to reside in glandular dots sprinkled over it. Annual: flowers in September: grows in ditches and pools: frequent. *Eng. Bot.* vol. xiv. pl. 989. *Eng. Fl.* vol. ii. p. 235. 631.

14. P. mi'te. Schrank. *Lax-flowered Persicaria.* Styles 2, united half-way up; stamens 5; racemes loose; filiform, drooping; leaves lanceolate.——*Stem* from one to two feet high: leaves slightly waved: flowers red. Differs from the following in wanting the glands of the flowers. Annual: flowers in August: grows in the south of England. *Brit. Fl.* 4th ed. p. 165. 632.

15. P. mi'nus. Huds. *Small Creeping Persicaria.* Styles 2, united; stamens 6; clusters loose, slender, nearly erect; stem decumbent at the base; leaves between linear and lanceolate.——*Stem* about a foot high, branched at the base, swelled above each joint: flowers small, reddish-green. Annual: flowers in September: grows in watery places: not common. *Eng. Bot.* vol. xv. pl. 1043. *Eng. Fl.* vol. ii. p. 235. 633.

TETRAGYNIA.

11. PA'RIS. Linn. HERB PARIS.

Calyx inferior, of 4 lanceolate, spreading, permanent leaves. Petals 4, subulate, permanent. Filaments subulate; anthers long, linear, 2-celled, attached to the middle of the filaments. Germen superior, roundish; styles 4, spreading; stigmas oblong, downy above. Berry subglobose, with 4 blunt corners, 4-celled. Seeds several, globose.—Name said to be from *par*, equal. 238.

1. P. quadrifo'lia. L. *Herb Paris. True-love. One-berry.* Leaves ovate, generally 4.——*Stem* about a foot high, round, with 4, sometimes 5 broadly ovate leaves at the top: petals and calyx green: anthers and styles yellowish: berry purplish black. The whole plant is said to be narcotic. Perennial: flowers in May and June: grows in woods: not common. *Eng. Bot.* pl. 7. *Eng. Fl.* vol. ii. p. 241. 634.

12. ADO'XA. Linn. MOSCHATELL.

Calyx half-inferior, divided into 2 or 3 spreading, permanent segments. Corolla rotate, divided into 4 or 5 ovate, acute segments, longer than the calyx. Filaments 8 or 10, subulate; anthers roundish. Germen half-superior; styles 4 or 5, sim-

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ple, short; stigmas simple. Berry globose, 1-celled, half invested with the permanent calyx. Seeds 4.—Named from α, without, and δοξα, glory, from its plain appearance. 239.

1. **A. Moschatel'lina.** L. *Tuberous Moschatell.*——*Root* of several imbricated scales: stem solitary, erect, three or four inches high: radical leaves 2 or 3, on very long petioles, triternate, lobed and incised; 2 small ternate stem-leaves: flowers pale green, in a terminal head, 4 of them 5-cleft, with 10 stamens, the uppermost one 4-cleft, with 8 stamens. Perennial: flowers in April and May; grows in moist shady places, on banks, and in woods: common. *Eng. Bot.* vol. vii. pl. 453. *Eng. Fl.* vol. ii. p. 242. 635.

13. ELATI'NE. Linn. WATER-WORT.

Calyx inferior, of 4 or 3 roundish, spreading, permanent leaves. Petals 4 or 3, ovate, spreading. Filaments subulate; anthers roundish. Germen superior, globose; styles 4 or 3, erect, very short; stigmas simple. Capsule globose, 4- or 3-valved, 4- or 3-celled; the partitions attached only to the column. Seeds numerous, oblong.—Name anciently given to some plant. 240.

1. **E. hexan'dra.** De C. *Small Hexandrous Water-wort.* Leaves opposite, spathulate; flowers hexandrous, with 3 petals; capsule 3-celled.——*Procumbent*, branched, with solitary flowers, having rose-coloured petals. Annual: flowers in July and August: grows in watery places in England: rare. Rock Ruisky, near Callender; Loch of Park, near Aberdeen; Loch Fadd in Bute, Scotland. *E. tripetala* of *Eng. Fl.* vol. ii. p. 243. *Eng. Bot.* vol. xiv. pl. 955. 636.

2. **E. Hydropi'per.** L. *Small Octandrous Water-wort.* Leaves opposite, spathulate; flowers octandrous, with 4 petals; capsule 4-celled.——*Annual:* flowers in August: grows in Llyn Coron, in Anglesea, where it was discovered by Mr. J. E. Bowman in 1830. Hooker. *Eng. Bot. Suppl.* pl. 2670. *Brit. Fl.* 4th ed. p. 166. 637.

CLASS IX. ENNEANDRIA.

Plants bearing Flowers with Nine Stamens.

Order I. HEXAGYNIA. *Six Pistils.*

1. BU'TOMUS. *Perianth* 6-cleft. *Follicles* 6, many-seeded.

ENNEANDRIA.—HEXAGYNIA.

1. BU'TOMUS. Linn. FLOWERING-RUSH.

Perianth of 6 ovate, withering pieces, the 3 outer smaller, and more acute. Filaments subulate, shorter than the corolla, 6 in the outer row, 3 in the inner; anthers oblong, 2-celled, 2-

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valved. Germens 6, oblong, tapering, ending each in a style; stigmas simple. Follicles 6, oblong, tapering, 1-celled, 1-valved. Seeds numerous, oblong.—Named from βους, an ox, and τεμνω, to cut. 241.

1. B. umbella'tus. L. *Common Flowering-rush.* Leaves elongated, linear, pointed; spatha of 3 leaves.——*Root* tuberous: leaves erect, narrow, acute, all radical: scape longer than the leaves, round, smooth, terminating in an umbel of beautiful rose-coloured flowers. Perennial: flowers in June and July: grows in ditches, pools, slow rivers, and lakes in England and Ireland: also in Duddingston Loch, and Loch of Clunie, Scotland. *Eng. Bot.* vol. x. pl. 651. *Eng. Fl.* vol. ii. p. 245. 638.

Class X. DECANDRIA.

Plants bearing Flowers with Ten Stamens.

Order I. MONOGYNIA. *One Pistil.*

* *Flowers with more than one petal.*

1. MONO'TROPA. *Perianth* single, of 4 or 5 leaves, bulging at the base. *Anthers* 1-celled, 2-lipped.

** *Flowers of one petal, regular.*

2. ANDRO'MEDA. *Calyx* deeply 5-cleft. *Corolla* ovate or campanulate. *Anthers* with 2 awns. *Capsule* 5-celled.
3. AR'BUTUS. *Calyx* deeply 5-cleft. *Corolla* ovate or subglobose, with a 5-cleft reflexed border. *Berry* granulated, with 5 many-seeded cells.
4. ARCTOSTA'PHYLOS. *Calyx* deeply 5-cleft. *Corolla* ovate or subglobose, with a 5-cleft reflexed border. *Berry* smooth, with 5 1-seeded cells.
5. PY'ROLA. *Calyx* deeply 5-cleft. *Corolla* of 5 petals, often connected at the base. *Anthers* 2-celled, opening with 2 pores. *Capsule* 5-celled opening near the base.
6. MO'NESES. *Calyx* deeply 5-cleft. *Corolla* of 5 petals, connected below. *Anthers* 2-celled, with two tubular horns. *Capsule* 5-celled, opening at the top.

(*Vaccinium Myrtillus* and *Oxycoccos*. *Cl. VIII.*
Menziesia cærulea. *Cl. VIII.*)

Order II. DIGYNIA. *Two Pistils.*

7. CHRYSOSPLE'NIUM. *Corolla* none. *Calyx* coloured. *Capsule* 2-beaked, 2-celled. *Seeds* numerous.
8. SAXI'FRAGA. *Corolla* of 5 petals. *Calyx* deeply divided into 5 segments. *Capsule* 2-beaked. *Seeds* numerous.
9. SCLERAN'THUS. *Corolla* none. *Calyx* of 1 leaf. *Seeds* 2.
10. SAPONA'RIA. *Corolla* of 5 petals. *Calyx* tubular, naked at the base. *Capsule* oblong.
11. DIAN'THUS. *Corolla* of 5 petals. *Calyx* tubular, with scales at the base. *Capsule* oblong.

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Order III. TRIGYNIA. *Three Pistils.*

12. SILE'NE. *Capsule* with 3 incomplete cells. *Petals* with long claws, their limb cleft. *Calyx* 5-toothed.
13. STELLA'RIA. *Capsule* 1-celled, many-seeded, opening with 6 teeth. *Petals* 5, deeply cleft, spreading. *Calyx* 5-leaved.
14. HONCKEN'YA. *Capsule* 1-celled, many-seeded, opening with 5 valves. *Petals* 5, undivided. *Calyx* 5-leaved. *Flowers* polygonous.
15. ARENA'RIA. *Capsule* 1-celled, many-seeded, opening with 6 valves. *Petals* 5, undivided, spreading. *Calyx* 5-leaved.
16. SPERGULA'RIA. *Capsule* 1-celled, many-seeded, opening with 5 valves. *Petals* 5, undivided. *Stamens* 5 or 10.
17. CHERLE'RIA. *Capsule* 1-celled, many-seeded. *Petals* none. 5 *glands* at the base of the stamens.

(*Polygonum Bistorta.*)

Order IV. PENTAGYNIA. *Five Pistils.*

18. COTYLE'DON. *Capsules* 5, each with a scale at the base. *Corolla* campanulate, 5-cleft.
19. SE'DUM. *Capsules* 5, sometimes 6, each with a scale at the base. *Corolla* of 5, sometimes 6, petals. *S. Rhodiola* has 4 petals, 4 capsules, 8 stamens.
20. O'XALIS. *Capsule* 5-celled, angular, each cell 2-seeded. *Petals* 5, connected at the base.
21. AGROSTEM'MA. *Capsule* 1-celled. *Calyx* tubular, leathery, 5-cleft. *Petals* 5, clawed, with undivided limb.
22. LY'CHNIS. *Capsule* 1, 3, or 5-celled, each cell many-seeded. *Calyx* tubular, membranous, 5-toothed. *Petals* 5, clawed, crowned.
23. CERAS'TIUM. *Capsule* 1-celled, tubular, opening at the end with 10 teeth. *Calyx* of 5 leaves. *Petals* 5, cleft.
24. MALA'CHIUM. *Capsule* 1-celled, opening with 5 bifid valves. *Calyx* of 5 leaves. *Petals* 5, cleft.
25. SPER'GULA. *Capsule* 1-celled. *Calyx* of 5 leaves. *Petals* 5, undivided.

(*Adoxa. Stellaria uliginosa* and *scapigera.*)

DECANDRIA.—MONOGYNIA.

1. MONO'TROPA. Linn. BIRD'S-NEST.

Perianth of 4 or 5 leaves, bulging at the base, hollow within and nectariferous, sometimes with as many external scales or bracts. Filaments subulate, erect; anthers reniform, 1-celled 2-valved. Germen superior, roundish, tapering; style cylindrical, short, erect. Capsule ovate, with 5 or 4 furrows, cells, and valves. Seeds numerous, minute, oval.—Named from μονος, one, and τρεπω, to turn, the flowers being all turned one way. 242.

1. M. Hypo'pitys. L. *Yellow Bird's-nest.* Flowers in a droop-

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ing raceme; the lateral with 8, the terminal with 10 stamens.——*Root* fibrous, stem about eight inches high, simple, with ovate scales. Flowers large, of a yellowish colour, with external scales. Perennial: flowers in July: grows in woods, or on decayed stumps of trees: not common. *Eng. Bot.* vol. i. pl. 69. *Eng. Fl.* vol. ii. p. 247. 639.

2. ANDRO'MEDA. Linn. ANDROMEDA.

Calyx inferior, small, coloured, permanent, deeply divided into 5 acute segments. Corolla ovate or campanulate; the limb with 5 reflexed segments. Filaments subulate, shorter than the corolla; anthers 2-celled, opening by 2 terminal pores, and surmounted by 2 horns. Germen roundish; style cylindrical, longer than the stamens, permanent; stigma obtuse. Capsule roundish, 5-cornered, 5-celled, 5-valved, with partitions from the centre of the valves. Seeds numerous, roundish.—Named after *Andromeda*, from a fancied resemblance in its circumstances. 243.

1. A. polifo'lia. L. *Marsh Andromeda. Wild Rosemary.* Racemes terminal; leaves alternate, lanceolate, revolute, glaucous beneath.——*A shrub*, about six inches high, with pendulous, rose-coloured flowers, in racemes: flowers in June: grows on wet heaths in the north of England, and in Scotland: not common. *Eng. Bot.* vol. x. pl. 713. *Eng. Fl.* vol. ii. p. 251. 640.

3. AR'BUTUS. Linn. STRAWBERRY-TREE.

Calyx inferior, deeply divided into 5 obtuse segments. Corolla ovate, deciduous, transparent at the base; the limb with 5 small, recurved segments. Filaments flattened, half as long as the corolla; anthers 2-celled, opening by two terminal pores, and bearing 2 reflexed awns. Germen superior, roundish, granulate; style cylindrical, as long as the corolla; stigma rather thick and blunt. Fruit fleshy, 5-celled; cells many-seeded.—Name of Celtic origin: *ar*, rough, and *boise*, a bush. 244.

1. A. Une'do. L. *Austere Strawberry-tree.* Bark rough; leaves elliptical, smooth, bluntly serrate; panicles terminal.——*A bushy tree*, with reddish-brown bark, peeling off in thin flakes: elliptical, bright-green, stiff leaves: panicled cluster of greenish-white flowers, tinged with red; and crimson large tuberculate berries. Flowers in September: grows about the Lake of Killarney, Ireland. *Eng. Bot.* vol. xxxiv. pl. 2377. *Eng. Fl.* vol. ii. p. 252. 641.

4. ARCTOSTA'PHYLOS. Adans. BEAR-BERRY.

Calyx inferior, deeply divided into 5 obtuse segments. Corolla ovate or globose, with 5 small recurved segments. Filaments flattened, half as long as the corolla; anthers 2-celled, opening by 2 pores, and bearing 2 reflexed awns. Germen superior, roundish; style cylindrical, as long as the corolla; stigma

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obtuse. Berry smooth, with 5 1-seeded cells.—Name from ἄρκτος, a bear, and σταφυλη, a grape. 245.

1. A. alpi'na. L. Spreng. *Black Bear-berry.* Stem procumbent; leaves obovate, serrate, withering.——*Leaves* alternate, stalked, obovate, reticulated with numerous veins, deciduous: flowers white, in short terminal clusters: berry black. A small shrub: flowers in May and June: grows on dry mountainous heaths in Scotland. *Arbutus alpina*, Linn. Sm. *Eng. Bot.* vol. xxix. pl. 2030. *Eng. Fl.* vol. ii. p. 253. 642.

2. A. U'va-ur'si. L. Spreng. *Red Bear-berry.* Stem procumbent; leaves obovate, smooth, entire, evergreen.——*Leaves* alternate, stalked, thick, stiff, veiny, evergreen, wrinkled: flowers pale rose-coloured or white, in short, drooping, terminal clusters: berry bright-red, mealy and harsh. A small trailing shrub: flowers in June: grows on dry heaths, abundantly. The whole plant is highly astringent, and has been employed in calculus. *Arbutus uva-ursi*, Linn. Sm. *Eng. Bot.* vol. x. pl. 714. *Eng. Fl.* vol. ii. p. 253. 643.

5. PYROLA. Linn. WINTER-GREEN.

Calyx inferior, permanent, deeply divided into 5 rounded segments. Petals 5, roundish, spreading. Filaments subulate, curved, shorter than the corolla; anthers large, pendulous, 2-celled, each opening by a round pore at the top. Germen superior, roundish, 5-lobed; style filiform, longer than the stamens, permanent; stigma thickened, somewhat notched or 5-lobed. Capsule globose, depressed, 5-cornered, 5-celled, 5-valved, opening from the base. Seeds very numerous, minute, oval, each in a membranous coat.—Name from *pyrus*, a pear-tree, the leaves or flowers having some resemblance. 246.

1. P. rotundifo'lia. L. *Round-leaved Winter-green.* Stamens ascending; style twice as long, declining and recurved; leaves nearly round, obscurely crenate.——*Flower-stalk* about eight inches high, triangular, terminating in an oblong, erect raceme of numerous white, fragrant flowers. Perennial: flowers in July and August: grows in moist woods: rare. *Eng. Bot.* vol. iii. pl. 213. *Eng. Fl.* vol. ii. p. 255. 644.

2. P. me'dia. Swartz. *Intermediate Winter-green.* Stamens all regularly incurvate; style twice as long, deflexed; leaves nearly orbicular, crenate.——*Nearly* as large as the preceding, with a triangular, spirally-twisted stalk, terminating in a raceme of smaller pendulous white flowers, with a delicate pink tinge at the margin. Perennial: flowers in July and August: grows in dry woods: rare in England and Ireland, not uncommon in Scotland. *Eng. Bot.* vol. xxviii. pl. 1945. *Eng. Fl.* vol. ii. p. 256. 645.

3. P. mi'nor. L. *Lesser Winter-green.* Stamens all regularly incurvate; style of the same length, straight; leaves broadly obovate, crenate.——*Stalk* 4-cornered, slightly twisted, terminating in a long and slender raceme of drooping, pale rose-coloured flowers. Perennial: flowers in July and August: grows in dry grounds and thickets: common in the north of England and in Scotland. *Eng. Bot.* vol. iii. pl. 152. *Eng. Fl.* vol. ii. p. 158. 646.

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4. P. secun'da. L. *Serrate Winter-green.* Leaves ovate, acute, serrate; flowers drooping, all inclining one way.——*Stalk* about four inches long, with a dense cluster of white, drooping flowers. Perennial: flowers in July and August: grows in fir-woods in Scotland: not common. *Eng. Bot.* vol. viii. pl. 517. *Eng. Fl.* vol. ii. p. 250. 647.

6. MO'NESES. Salisb. ONE-FLOWERED WINTER-GREEN.

Calyx inferior, permanent, deeply divided into 5 rounded segments. Corolla deeply divided into 5 segments. Filaments subulate, shorter than the corolla; anthers large, pendulous, 2-celled, each opening by a tubular horn at the top. Germen superior, roundish, 5-lobed; style filiform, longer than the stamens, permanent; stigma thickened, 5-cleft. Capsule globose, 5-celled, 5-valved, opening from the top. Seeds very numerous, minute, oval, each in a membranous coat.—Name from μονος, alone. The distinctions between this genus and Pyrola are very insignficant. 247.

1. M. unifio'ra. L. *Single-flowered Winter-green.*——*Root* creeping: stems reclining, an inch or two long, simple: leaves ovate, acute, sharply serrate: stalk about three inches long, erect, bearing a single, large, white fragrant flower. Perennial: flowers in July: grows in woods in Scotland: rare. Fir-wood, near Brodie House; Knock of Alves, near Elgin; Coul, in Ross-shire. *Pyrola uniflora*, Linn. Sm. *Eng. Bot.* vol. iii. pl. 146. *Eng. Fl.* vol. ii. p. 258. 648.

DIGYNIA.

7. CHRYSOSPLE'NIUM. Linn. GOLDEN-SAXIFRAGE.

Calyx superior, of 1 leaf, deeply divided into 4 or 5 unequal, spreading, permanent, coloured segments. Corolla none. A glandular ring within the insertion of the stamens. Filaments 8 or 10, subulate, erect, very short; anthers roundish, 2-lobed. Germen inferior, roundish, terminated by 2 subulate styles, as long as the stamens; stigmas obtuse. Capsule 2-beaked, 1-celled, 2-valved. Seeds roundish, numerous, small.—Named from χρυσος, gold, and σπλην, the spleen. 248.

1. C. alternifo'lium. L. *Alternate-leaved Golden-saxifrage.* Leaves alternate.——*Roots* fibrous: stem four or five inches high, angular, decumbent: leaves reniform, broadly crenate: radical leaves on long stalks, those of the stem on short stalks: flowers in small umbels, greenish-yellow, 4-cleft, and with 8 stamens, excepting the uppermost. Perennial; flowers in May: grows on the borders of rivulets in shady places: not common. *Eng. Bot.* vol. i. pl. 54. *Eng. Fl.* vol. ii. p. 260. 649.

2. C. oppositifo'lium. *Opposite-leaved Golden-saxifrage.* Leaves opposite.——*About* the same size as the last, of a paler green, with smaller leaves. Perennial: flowers in May: grows in rivulets in

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shady places: common. *Eng. Bot.* vol. vii. pl. 490. *Eng. Fl.* vol. ii. p. 260. 650.

8. SAXIFRAGA. Linn. SAXIFRAGE.

Calyx inferior, half-inferior, or nearly superior, of 1 leaf, divided into 5 permanent segments. Petals 5, attached to the calyx, narrow at the base, spreading. Filaments subulate, or enlarged upwards, spreading; anthers roundish, 2-lobed. Germen superior, or more or less inferior, roundish, terminating in 2 short, spreading styles. Stigmas obtuse. Capsule nearly ovate, 2-beaked, 2-celled. Seeds minute, numerous, roundish. —Name from *saxum*, a stone, and *frango*, to break. 249.

* *Leaves all radical, undivided.*

1. S. Ge'um. L. *Kidney-leaved Saxifrage.* Leaves reniform, notched, hairy; petioles linear, channelled; flower-stalk panicled; capsule superior.——*Leaves* in tufts, numerous, spreading on long stalks: flowers small, with a reddish calyx, the petals cream-coloured, purplish at the base, with a yellow spot in the middle of the disk. There are several varieties, and some supposed hybrids between this and *saxifrage umbrosa.* Perennial: flowers in June: grows on mountains in the south of Ireland. *Eng. Bot.* vol. xxii. pl. 1561. *Eng. Fl.* vol. ii. p. 261. 651.

2. S. hirsut'a. L. *Hairy Oval-leaved Saxifrage.* Leaves roundish-oval, with sharp cartilaginous notches, slightly hairy, cordate at the base, with linear petioles, much longer than the leaves. ——*Leaves* longer than broad, deep-green: flowers panicled, the petals oblong, yellowish, dotted with purple. Perennial: flowers in June: grows on mountains in Ireland; Gap of Dunloe and Connor Hill, Kerry: rare. *Eng. Bot.* vol. xxxiii. pl. 2322. *Eng. Fl.* vol. ii. p. 262. 652.

3. S. e'legans. Mackay. *Round-leaved Saxifrage.* Leaves round, glabrous, shining, acutely serrate; petioles broad, flat above, convex beneath; panicle racemose; capsule superior.——*Distinguished* from *S. Geum* by having the leaves rounder, their stalks shorter, and not channelled. Perennial: flowers in June: grows on the top of Turk mountain, Killarney. 653.

4. S. umbro'sa. L. *London-pride. None-so-pretty.* Leaves obovate, smooth, with cartilaginous acutely crenate margins; scape panicled; capsule superior.——*Stem* from six to ten inches high: panicle branched: petals pale flesh-coloured, yellow near the base, spotted with crimson on the disk: capsule and calyx reddish. Perennial: flowers in June: grows abundantly in mountainous situations in the south and west of Ireland. It presents numerous varieties in the outline and marginal segments of the leaves. *Eng. Bot.* vol. x. pl. 663. *Eng. Fl.* vol. ii. p. 263. 654.

5. S. stella'ris. L. *Starry Saxifrage.* Leaves oblong, inclining to cuneiform, coarsely serrate, tapering and entire at the base; panicle corymbose, few-flowered; capsule superior.——*Stem* about four inches high: leaves incised, widely serrate, angulato-dentate, or angulate: flowers white, with 2 yellow spots at the base of the petals. Perennial: flowers in June: grows by rills, towards the

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summit of high mountains: not rare. *Eng. Bot.* vol. iii. pl. 167. *Eng. Fl.* vol. ii. p. 265. 655.

6. **S. niva'lis.** L. *Clustered Alpine Saxifrage.* Leaves obovate, serrate, tapering, and entire at the base; cluster dense, few-flowered; capsule half-inferior.——*This* species has great resemblance to the last, but is shorter and stouter: leaves subcoriaceous, glabrous above: petals white, with 2 pale-green spots. Perennial: flowers in June and July: grows in clefts of rocks on the summits of the higher mountains of Wales and the Highlands of Scotland. *Eng. Bot.* vol. vii. pl. 440. *Eng. Fl.* vol. ii. p. 265. 656.

** *Stem leafy. Leaves undivided.*

7. **S. oppositifo'lia.** L. *Purple Saxifrage.* Leaves ovate, opposite, fringed, imbricated; flowers solitary, terminal.——*Stems* numerous, prostrate: flowers large, with purplish-red petals. Perennial: flowers in May and June: grows in moist rocky places on high mountains: frequent. *Eng. Bot.* vol. i. pl. 9. *Eng. Fl.* vol. ii. p. 266. 657.

8. **S. Hir'culus.** L. *Yellow-marsh Saxifrage.* Leaves lanceolate, alternate, flat, entire; calyx reflected, obtuse, fringed; capsule superior.——*Stems* simple, from four to eight inches high: flowers terminal, usually 2 or 3, with deep-yellow petals, dotted with red. Perennial: flowers in August: grows in bogs in the north of England and south of Scotland; Aberdeenshire: rare. *Eng. Bot.* vol. xv. pl. 1009. *Eng. Fl.* vol. ii. p. 267. 658.

9. **S. aizoi'des.** L. *Yellow Mountain Saxifrage.* Leaves alternate, linear-oblong, fringed; stem decumbent at the base; capsule half-superior. ——*Stems* decumbent at the base, then erect, from four to eight inches long, with a terminal panicle of yellow flowers, sprinkled with red dots. Perennial: flowers in July, August, and September: grows by rills in mountainous situations: common in Scotland. *Eng. Bot.* vol. i. pl. 39. *Eng. Fl.* vol. ii. p. 268. Don in *Lin. Tr.* vol. xiii. p. 375. 659.

*** *Stem leafy. Leaves lobed.*

10. **S. granula'ta.** L. *White Meadow Saxifrage.* Leaves reniform, lobed; stem panicled; root granulated; germen half-inferior. ——*Stem* about a foot high: petals white, without spots. Perennial: flowers in May: grows in meadows and pastures: not uncommon. *Eng. Bot.* vol. vii. pl. 500. *Eng. Fl.* vol. ii. p. 270. 660.

11. **S. cer'nua.** L. *Drooping Bulbous Saxifrage.* Leaves somewhat palmate, stalked; stem simple, 1-flowered, with axillar buds; germen superior.——*Roots* scaly: stem from four to eight inches high: flowers white, on a terminal downy stalk. Perennial: flowers in July: grows on dry rocks on the highest of the Breadalbane mountains: rare. *Eng. Bot.* vol. x. pl. 664. *Eng. Fl.* vol. ii. p. 270. 661.

12. **S. rivula'ris.** L. *Alpine Brook Saxifrage.* Leaves palmate, stalked, the uppermost spathulate; stem few-flowered; root fibrous; germen half-inferior.——*Leaves* with 5 or 3 lobes: stem about two inches high, with a few small white flowers. Axillar buds or bulbils are usually to be seen on this species also. Annual: flowers in July

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and August: grows by rivulets on several of the higher mountains of Scotland, Ben Nevis, Ben Lawers, Loch-na-gar, &c. *Eng. Bot.* vol. xxxii. pl. 2275. *Eng. Fl.* vol. ii. p. 271. 662.

13. S. tridactyli'tes. L. *Rue-leaved Saxifrage.* Leaves cuneiform, 3- or 5-cleft, the uppermost undivided; stem panicled; stalks single-flowered, alternate; germen inferior.——*Downy* and glutinous, turning red after flowering: stem erect, three or four inches high: flowers small, white. Annual: flowers in April and May: grows on walls, roofs, and dry bare ground: frequent. *Eng. Bot.* vol. vii. pl. 501. *Eng. Fl.* vol. ii. p. 271. 663.

14. S. cæspito'sa. L. *Tufted Alpine Saxifrage.* Root-leaves crowded, 3- or 5-cleft, obtuse, fringed, the lowermost undivided; stem erect, few-flowered; calyx obtuse; petals rounded, 3-nerved; germen half-inferior.——*This* species varies greatly in luxuriance, the number of flowers, and the degrees of hairiness: petals white, with green nerves. It is, however, probably only a variety of the next. Perennial: flowers in May and June: grows on the highest mountains of Wales and on Ben-na-buird and Ben Nevis. *Eng. Bot.* vol. xii. pl. 794. *Eng. Fl.* vol. ii. p. 274. 664.

15. S. hypnoi'des. *Mossy Saxifrage. Ladies' Cushion.* Root-leaves 3- or 5-cleft, the others undivided or 3-cleft, all bristle-pointed and fringed; segments of the calyx ovate, pointed; petals obovate. ——*Stem* four or five inches high, terminating in a corymbose panicle of from 3 to 5 flowers: petals white, 3-ribbed. Perennial: flowers in May and June: grows on rocky mountains in Scotland, the north of England, and Wales. *Eng. Bot.* vol. vii. pl. 454. *Eng. Fl.* vol. ii. p. 277. To this variable species are now generally referred several varieties described as so many species in some of the former editions of the present work, in this respect following Sir J. E. Smith in his *Eng. Fl.*, and Mr. Don in *Lin. Trans.* vol. xiii., where they will be found described. Figures of all of them may be seen in *Eng. Bot.* 665.

16. S. pedati'fida. Sm. *Web-foot-leaved Saxifrage.* Root-leaves reniform, divided in a pedate manner into 7 lobes; panicle cymose, many-flowered; calyx superior, with narrow lanceolate segments. ——*Stems* about six inches high, panicled at the top: flowers white, small, erect. Perennial: flowers in May: said to have been found on the mountains of Clova, in Angus-shire, by the late Mr. Don, but gathered by no one else. *Eng. Bot.* vol. xxxii. pl. 2278. *Eng. Fl.* vol. ii. p. 280. 666.

9. SCLERANTHUS. Linn. KNAWEL.

Perianth inferior, tubular, with 5 shallow acute clefts, permanent, contracted at the neck. Filaments from 5 to 10, subulate, erect, anthers roundish, 2-lobed. Germen superior, roundish; styles filiform, spreading, as long as the stamens; stigmas simple, downy. Fruit a utricle, inclosed within the hardened tube of the perianth. Seed solitary.—Named from σκληρος, hard, and ανθος, a flower. 250.

1. S. an'nuus. L. *Annual Knawel.* Calyx of the fruit with acute spreading segments; stems spreading.——*Roots* small, tapering: stems numerous, branched, and many-flowered above: leaves

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linear, acute, united at the base by a membranous fringed border: flowers small, green. Annual: flowers in July: grows in dry fields: common. *Eng. Bot.* vol. v. pl. 351. *Eng. Fl.* vol. ii. p. 282. 667.

2. S. peren'nis. L. *Perennial Knawel.* Calyx of the fruit with obtuse converging segments; stems procumbent.——*Root* woody, branched: stems numerous, decumbent or prostrate, three or four inches long: leaves linear, tapering. Perennial: flowers in the autumnal months: grows in open dry fields in Norfolk and Suffolk. *Eng. Bot.* vol. v. pl. 352. *Eng. Fl.* vol. ii. p. 283. 668.

10. SAPONA'RIA. Linn. SOAP-WORT.

Calyx inferior, of one leaf, tubular, with 5 teeth, permanent. Petals 5, with narrow angular claws, as long as the calyx, the limb flat, dilated towards the end. Filaments subulate, as long as the calyx; anthers oblong, obtuse. Germen nearly cylindrical; styles 2, erect, parallel, as long as the stamens; stigmas acute, downy. Capsule oblong, 1-celled, concealed in the calyx. Seeds numerous, roundish.—Named from *sapo*, soap. 251.

1. S. officina'lis. L. *Common Soap-wort.* Calyx cylindrical, leaves lanceolate, inclining to elliptical.——*A* nearly smooth, somewhat succulent plant: stems about eighteen inches high, panicled in the upper part: flowers erect, flesh-coloured or white. The whole plant is bitter. When bruised and agitated in water it raises a lather like soap, which washes greasy spots out of clothes. Perennial: flowers in August and September: grows in meadows and in shady places, but is not indigenous. *Eng. Bot.* vol. xv. pl. 1060. *Eng. Fl.* vol. ii. p. 284. 669.

11. DIAN'THUS. Linn. PINK.

Calyx inferior, of one leaf, cylindrical, striated, permanent, with 5 teeth at the mouth, and two or more pairs of opposite imbricated scales at the base. Petals 5, their claws as long as the calyx, narrow and angular; the limbs flat, dilated towards the end, obtuse, variously notched. Filaments subulate, as long as the calyx, spreading at the top; anthers oblong, compressed. Germen oval; styles 2, subulate, longer than the stamens; stigmas revolute, tapering. Capsule cylindrical, 1-celled, opening with 4 teeth. Seeds numerous, roundish, compressed.—Name ἄνθος, flower, Διος, of Jupiter. 252

1. D. Arme'ria. L. *Deptford Pink.* Flowers aggregate; scales of the calyx lanceolate, downy, as long as the tube.——*Stem* about a foot high, corymbose above: flowers small, speckled pink and white. Annual: flowers in July and August: grows in pastures and hedges in England: rare. *Eng. Bot.* vol. v. pl. 317. *Eng. Fl.* vol. ii. p. 286. 670.

2. D. pro'lifer. L. *Proliferous Pink.* Flowers aggregate; scales of the calyx ovate, blunt, longer than the tube.——*Stem* erect, simple, from three to twelve inches high: flowers red, scentless. Annual: flowers in July: grows in sandy pastures in England: rare. Selsey Island, Sussex; near Norwich; in a marl-pit at Sandridge Hill,

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Hanley Castle, Worcestershire. *Eng. Bot.* vol. xiv. pl. 956. *Eng. Fl.* vol. ii. p. 286. 671.

3. **D. Caryophyl'lus.** L. *Clove Pink.* Flowers solitary; scales of the calyx almost rhomboidal, very short, petals irregularly toothed. ——*Stem* panicled: leaves linear, channelled: flowers pale flesh-coloured. The origin of our garden carnations. Perennial: flowers in June and July: naturalized on old walls in various parts of England. *Eng. Bot.* vol. iii. pl. 214. *Eng. Fl.* vol. ii. p. 287. 672.

4. **D. deltoi'des.** L. *Maiden Pink.* Flowers solitary; scales of the calyx two, broadly lanceolate, acute, with membranous margins; leaves bluntish, rough on the margin; petals notched, smooth.——*Stems* numerous, decumbent, matted, when in flower ascending, six or eight inches long: flowers pale rose colour, with a circle of deep-coloured dots at the mouth. Perennial: flowers from July to October: grows in dry hilly banks and pastures: frequent. *Eng. Bot.* vol. i. pl. 61. *Eng. Fl.* vol. ii. p. 288. 673.

5. **D. cæ'sius.** Sm. *Mountain Pink.* Stems single-flowered; scales of the calyx short, roundish; leaves rough at the edges; petals irregularly toothed.——*Stems* from four to six inches high, 4-cornered: flowers pale rose-coloured, fragrant. Perennial: flowers in July: grows on Cheddar Rocks, Somersetshire. *Eng. Bot.* vol. i. pl. 62. *Eng. Fl.* vol. ii. p. 288. 674.

6. **D. pluma'rius.** L. *Pheasant's-eye Pink.* Flowers solitary; scales of the calyx roundish-ovate, with a short bristle-tip; leaves linear, rough at the margin; petals many-cleft as far as the middle, the central part downy.——*Stem* panicled, few-flowered, from six to twelve inches high: flowers pale pink or white. Flowers in June: grows on old walls and ruins: natural in England. Bed. Leight. *Fl. Shrop.* p. 188. Bab. *Man.* p. 43. 675.

TRIGYNIA.

12. SILE'NE. Linn. CATCHFLY.

Calyx inferior, tubular, with 5 teeth, permanent. Petals 5; claws narrow, as long as the calyx, bordered; limb flat, frequently cleft, either naked at the base, or furnished with 2 teeth. Filaments subulate, 5 alternate ones attached to the petals, and later than the rest; anthers oblong. Germen cylindrical or ovate; styles 3, longer than the stamens; stigmas oblong, oblique, downy on the upper side. Capsule ovate, covered by the calyx, imperfectly 3-celled, opening at the top with 6 teeth. Seeds numerous, reniform.—Named from σιαλον, saliva. 253.

* *Flowers lateral, solitary.*

1. **S. An'glica.** L. *English Catchfly.* Hairy and clammy; flowers lateral, alternate, erect; the lower capsules bent back.——*Stem* branched, spreading: leaves lanceolate, the lower spathulate: flowers erect, with small, white, cleft petals. Annual: flowers

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in June and July: grows in cultivated fields. *Eng. Bot.* vol. xvii. pl. 1178. *Eng. Fl.* vol. ii. p. 291. 676.

2. **S. quinquevul'nera.** L. *Variegated Catchfly.* Hairy and somewhat clammy; flowers lateral, alternate, erect; capsules erect.——*Less* hairy and less clammy than the preceding: petals not notched, their limb white, with a blood-red spot at the base. Annual: flowers in June and July: grows in sandy corn-fields, in Surrey and Kent: rare. Some consider it only a variety of the last. *Eng. Bot.* vol. ii. pl. 86. *Eng. Fl.* vol. ii. p. 292. 677.

** *Stem forked, with panicled branches.*

3. **S. infla'ta.** Sm. *Bladder Campion. White Bottle.* Flowers in panicles, drooping; petals cleft half-way down; calyx smooth, inflated, reticulated; stem erect; leaves ovate, acute, glaucous.——*Stem* two or three feet high: calyx pale or purplish, beautifully reticulated with veins: petals white. Perennial: flowers in July: grows in fields and pastures, and among rubbish: common. The boiled leaves taste like peas. *Eng. Bot.* vol. iii. pl. 164: *Cucubalus Behen. Eng. Fl.* vol. ii. p. 292. 678.

4. **S. mari'tima.** With. *Sea Campion.* Flowers in panicles, or solitary; petals cleft, each with a cleft acute scale; calyx smooth, inflated, reticulated; stem recumbent; leaves lanceolate.——*Stems* procumbent at the base, about a foot long: calyx purplish, beautifully reticulated: petals white. Perennial: flowers in June and July: grows on the sea coast, chiefly in rocky places, or on stony beaches, and by alpine torrents: common. *Eng. Bot.* vol. xiv. pl. 957. *Eng. Fl.* vol. ii. p. 293. 679.

*** *Stem and branches forked, leafy.*

5. **S. co'nica.** L. *Striated Corn Catchfly.* Stem forked; petals cleft; calyx when in fruit conical, with 30 furrows; leaves softly downy.——*Stem* erect, repeatedly forked, downy: flowers from the forks of the stem, stalked, erect, fragrant in the evening: petals small: the limb red, deeply cleft: scale deeply divided. Annual: flowers in July: grows in sandy fields in England: rare. Haddingtonshire, Scotland. *Eng. Bot.* vol. xiii. pl. 922. *Eng. Fl.* vol. ii. p. 294. 680.

6. **S. noctiflo'ra.** L. *Night-flowering Catchfly.* Stem forked; petals cleft; calyx with 10 hairy ribs, its teeth linear, almost as long as the tube.——*Stem* erect, round, spreading, from one to two feet high: flowers solitary, from the forks of the stem, sweet-scented during the night: petals with a deep cleft, pale rose-coloured limb, and blunt cleft scale. Annual: flowers in July: grows in sandy fields in England: rare. Haddingtonshire, Scotland. *Eng. Bot.* vol. v. pl. 291. *Eng. Fl.* vol. ii. p. 295. 681.

**** *Stem panicled, imperfectly forked.*

7. **S. nu'tans.** L. *Nottingham Catchfly.* Panicle with drooping flowers pointing one way; petals deeply cleft, with linear segments and an acute cleft scale; leaves lanceolate, downy.——*Stem* about a foot and a half high, decumbent at the base, erect, simple, round, downy, the three upper joints beset with clammy hairs: flowers white, sweet-scented in the evening. Perennial: flowers in June and

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July: grows on rocks and walls, and in hilly pastures. *Eng. Bot.* vol. vii. pl. 465. *Eng. Fl.* vol. ii. p. 296. 682.

8. **S. Ita'lica.** De C. *Italian Catchfly.* Panicle nearly erect; petals deeply cleft, with broad segments and without a scale; leaves downy.——*Whole* plant downy, the panicles slightly clammy: flowers white. Perennial: flowers in June and July: found by Mr. Peete on Dover Cliffs. *Eng. Bot. Suppl.* pl. 2748. *Brit. Fl.* 4th ed. p. 179. 683.

9. **S. Oti'tes.** Sm. *Spanish Catchfly.* Panicle with somewhat whorled, erect branches; flowers diœcious; petals linear, undivided, destitute of scale; leaves spathulate, roughish.——*Stem* erect, from one to two feet high, round, clammy about the middle of the upper joint below the panicle: flowers pale-green. Perennial: flowers in July and August: grows in dry sandy fields, in England: rare. *Eng. Bot.* vol. ii. pl. 85. *Cucubalus Otites.* *Eng. Fl.* vol. ii. p. 298. 684.

***** *Stem single-flowered.*

10. **S. acau'lis.** L. *Moss Catchfly* or *Campion.* Stems tufted; leaves linear, acute, fringed at the base; stalks terminal, solitary, single-flowered; petals slightly notched, crowned.——*Grows* in dense tufts and patches towards the summits of the Highland mountains, as well as on those of Wales: flowers rose-coloured. Perennial: flowers in June and July. *Eng. Bot.* vol. xvi. pl. 1081. *Eng. Fl.* vol. ii. p. 299. 685.

13. STELLA'RIA. Linn. STITCH-WORT.

Calyx inferior, of 5 ovate, acute, spreading, permanent leaves. Petals 5, deeply cleft, spreading, oblong, withering. Filaments filiform, shorter than the petals, the 5 alternate ones shorter; anthers roundish. 5 notched glandular nectaries at the base of the stamens. Germen roundish; styles 3, capillary, spreading; stigmas obtuse, downy. Capsule ovate or subcylindrical, 1-celled, 6-valved, covered by the calyx. Seeds numerous, roundish, compressed.—Name from *stella*, a star. 254.

1. **S. ne'morum.** L. *Wood Stitchwort.* Lower leaves cordate, stalked; upper ovate, sessile; panicle repeatedly forked.——*Stems* round, lax, very brittle, about a foot high; leaves pale-green, tender; flowers white. Perennial: flowers in May and June: grows in moist woods, in the north of England and in Scotland: frequent. *Eng. Bot.* vol. ii. pl. 92. *Eng. Fl.* vol. ii. p. 300. 686.

2. **S. me'dia.** L. With. *Common Chickweed* or *Stitchwort.* Leaves ovate; stems procumbent, with a hairy alternating line on one side; stamens varying from 3 to 10.——*Stem* much branched, spreading, brittle: flowers small, with white petals: stamens 3, 5, or 10. Poultry and small birds eat the seeds and even the whole plant. Annual: flowers during the whole year: grows every where in waste and cultivated ground. As might be expected, there are several varieties. *Alsine media.* Linn. *Eng. Bot.* vol. viii. pl. 537. *Eng. Fl.* vol. ii. p. 301. 687.

3. **S. Holos'tea.** L. *Greater Stitchwort.* Leaves lanceolate, bristle-serrate; petals cleft to the middle; calyx ribless, much

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shorter than the petals.——*Stems* from one to two feet high, very slender and decumbent at the base, square, erect, panicled at the top: flowers large, pure white. Perennial: flowers in May and June: grows in woods and hedges: common. *Eng. Bot.* vol. viii. pl. 511. *Eng. Fl.* vol. ii. p. 301. 688.

4. **S. grami'nea.** L. *Lesser Stitchwort.* Leaves between linear and lanceolate, not serrate; panicle terminal, spreading; calyx 3-ribbed, nearly as long as the petals.——*Stems* very weak and brittle, supporting themselves by the surrounding plants, from one to three feet long: flowers with white petals. Perennial: flowers in May, June, and July: grows in grassy or bushy places: common. *Eng. Bot.* vol. xii. pl. 803. *Eng. Fl.* vol. ii. p. 302. 689.

5. **S. glau'ca.** With. *Glaucous Marsh-Stitchwort.* Leaves between linear and lanceolate, not serrate, glaucous; flowers upon long solitary axillar stalks; calyx 3-ribbed, half as long as the petals. ——*Intermediate* between *S. Holostea* and *S. graminea*, but easily distinguished from either: stem about a foot high. Perennial: grows in marshy places: flowers in June and July. *Eng. Bot.* vol. xii. pl. 825. *Eng. Fl.* vol. ii. p. 303. 690.

6. **S. uligino'sa.** Mun. *Bog Stitchwort.* Leaves between lanceolate and elliptical, entire, with the tip callous; flowers irregularly panicled, lateral or terminal; petals shorter than the calyx.——*Smooth*, pale, and somewhat glaucous: stems weak, square, about a foot high: flowers small, white. Annual: flowers in June: grows in rivulets, ditches, and boggy places: common. *Eng. Bot.* vol. xv. pl. 1074. *Eng. Fl.* vol. ii. p. 303. 691.

7. **S. scapi'gera.** Willd. *Many-stalked Stitchwort.* Leaves between lanceolate and linear, rough on the margin; stem shorter than the flower-stalks; leaves of the calyx 3-ribbed, as long as the petals. ——*Stem* erect, very short, angular: leaves crowded: flowers small, white. Perennial: flowers in June: said to have been found on the higher mountains of Scotland, by the late Mr. Don. No other botanist has found it in Britain. *Eng. Bot.* vol. xviii. pl. 1269. *Eng. Fl.* vol. ii. p. 304. 692.

8. **S. cerastoi'des.** L. *Alpine Stitchwort.* Leaves between oblong and elliptical, bluntish, smooth; stems decumbent, with a lateral hairy line; flower-stalks downy; leaves of the calyx with a single downy rib.——*Stem* spreading, three or four inches long: flowers 2 or 3, erect, terminal: petals nearly twice the length of the calyx, cleft nearly half-way down; styles 3, 4, or 5. Perennial: flowers in June: grows on Ben Nevis, Ben-na-muic-dui, Loch-na-gar, and other high mountains in Scotland. *Cerastium trigynum.* Fries. Hook. and Arn. p. 73. *Eng. Bot.* vol. xiii. pl. 911. *Eng. Fl.* vol. ii. p. 305. 693.

14. HONCKENYA. Ehrh. HONCKENYA.

Calyx inferior, of 5 ovate, permanent leaves. Petals 5, obovate, undivided, withering. Ten glands, alternating with the stamens. Filaments subulate, 5 rather shorter; anthers roundish. Germen subglobose, superior; styles from 3 to 5. Capsule ovate, with 3, 4, or 5 valves, 1-celled. Seeds about 8 or

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10, large. Imperfectly dicecious; the stamens abortive in the fruit-bearing flowers, and the ovary abortive in the staminiferous flowers.—Named after *G. A. Honckeny*, a German botanist. 255.

1. **H. peploi'des.** L. Ehrh. *Ovate-leaved Honckenya.* Leaves ovate, acute, fleshy; leaves of the calyx obtuse, ribless.——*Root* extensively creeping. The whole plant smooth and succulent, with inconspicuous white flowers. Perennial: flowers in June and July: grows abundantly on the sea-coast in sandy and gravelly places. *Arenaria peploides.* Linn. *Alsine peploides.* Wahl. *Eng. Bot.* vol. iii. pl. 189. *Eng. Fl.* vol. ii. p. 306. 694.

15. ARENA'RIA. Linn. SANDWORT.

Calyx inferior, of 5 oblong, pointed, permanent leaves. Petals 5, ovate or lanceolate, undivided, withering. Nectaries 5 or 10 glands at the base of the stamens. Filaments subulate, 5 rather shorter; anthers roundish. Germen ovate, superior; styles 3, short, spreading; stigmas downy. Capsule ovate, covered by the calyx and corolla, 1-celled, 3-valved. Seeds numerous, reniform.—Named from *arena*, sand. 256.

1. **A. triner'vis.** L. *Plantain-leaved Sandwort.* Leaves ovate, acute, 3-ribbed, stalked; leaves of the calyx obscurely 3-ribbed, with a rough keel; hilum of the seeds with an appendage.——*Root* small, tapering: stems weak, branching, about a foot high. leaves fringed, pale: flowers small, white. Annual: flowers in May and June: grows in woods and moist hedges: common. *Eng. Bot.* vol. xxi. pl. 1483. *Eng. Fl.* vol. ii. p. 307. 695.

2. **A. serpyllifo'lia.** L. *Thyme-leaved Sandwort.* Leaves ovate, nearly sessile, rough; leaves of the calyx hairy, the 3 outer 5-ribbed. ——*Stems* spreading, forked in the upper part, round, rough with short hairs: flowers small, white, solitary, from the forks of the stem. Annual: flowers in July: grows on walls and in sandy and waste places: common. *Eng. Bot.* vol. xiii. pl. 923. *Eng. Fl.* vol. ii. p. 307. 696.

3. **A. cilia'ta.** L. *Fringed Sandwort.* Leaves spathulate, somewhat rough, fringed; stems procumbent, much branched, downy; calyx half the length of the corolla, lanceolate, acute, ribbed.——*Perennial:* flowers in August and September: grows on mountains in Ireland: rare. Found by Mr. Mackay in Sligo. *Eng. Bot.* pl. 1745. *Brit. Fl.* 4th ed. p. 182. 697.

4. **A. Norve'gica.** Gunn. *Norwegian Sandwort.* Leaves spathulate, fleshy, glabrous; stems procumbent, much branched, fleshy, glabrous; calyx half the length of the corolla, ovate, acute, ribbed. ——*Perennial:* flowers in July: discovered by Mr. Thomas Edmonstone, on Serpentine Hill, Unst. *Eng. Bot. Suppl.* pl. 2852. 698.

5. **A. tenuifo'lia.** L. *Fine-leaved Sandwort.* Leaves subulate, pointed; stem panicled; capsules erect; petals lanceolate, shorter than the calyx.——*Stems* as in the last, about eight inches high: flowers very small, white. Annual: flowers in June: grows in dry

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fields and on walls: not common. *Eng. Bot.* vol. iv. pl. 219. *Eng. Fl.* vol. ii. p. 308. 699.

6. **A. ver'na.** L. *Vernal Sandwort.* Leaves subulate, bluntish; stem panicled; leaves of the calyx 3-ribbed, longer than the petals. ——*Stems* numerous, ascending, three or four inches long: flowers white. Perennial: flowers in the summer months: grows in hilly pastures: not common. *Eng. Bot.* vol. viii. pl. 512. *Eng. Fl.* vol. ii. p. 309. 700.

7. **A. rubel'la.** L. *Little Red Sandwort.* Leaves subulate, bluntish; stems 1-flowered; leaves of the calyx with 3 equal ribs, longer than the petals.——*Stems* very numerous, two or three inches high: petals reddish. Perennial: flowers in June: grows on some of the highest mountains in the north of Scotland: very rare. *Eng. Fl.* vol. ii. p. 310. 701.

8. **A. fastigia'ta.** Sm. *Level-topped Sandwort.* Leaves subulate; stem erect, straight, corymbose; petals very short; lateral ribs of the calyx dilated.——*Stems* four or five inches high: flowers in crowded panicles: petals white, much shorter than the calyx. Annual: flowers in June: found on rocks on the mountains of Angus-shire and Fifeshire, by Mr. G. Don. *Eng. Bot.* vol. xxv. pl. 1744. *Eng. Fl.* vol. ii. p. 310. 702.

16. SPERGULA'RIA. Pers. SANDWORT-SPURREY.

Calyx inferior, of 5 ovate, pointed, permanent leaves. Petals 5, ovate, entire, about as long as the calyx. Stamens 5 or 10; filaments subulate, 5 rather shorter; anthers roundish. Germen ovate, superior; styles 3, spreading. Capsule ovate, 1-celled, with entire valves, fewer than the sepals, or as many and alternate with them.—Named from its resemblance to *Spergula.* 257.

1. **S. ru'bra.** Wahlb. *Purple Sandwort-Spurrey.* Leaves linear, bristle-pointed; stipules membranous, sheathing; seeds compressed, angular, roughish.——*Stems* numerous, prostrate, branched, hairy towards the extremity: leaves opposite: flowers from the forks of the stem: calyx clammy, ribless, longer than the pale-purple petals. Annual: flowers in June, July, and August: grows in sandy fields and waste places: not uncommon. *Eng. Bot.* vol. xii. pl. 852. *Eng. Fl.* vol. ii. p. 311. 703.

2. **S. mari'na.** Wahlb. *Sea Sandwort-Spurrey.* Leaves semi-cylindrical, fleshy, pointless; stipules membranous, sheathing; seeds compressed, bordered, smoothish.——*Stems* numerous, decumbent at the base: flowers rather large, with pale-purple petals. Annual: flowers in June and July: grows on the sea-shore: frequent. Probably a variety of the preceding. *Eng. Bot.* vol. xiv. pl. 958. *Eng. Fl.* vol. ii. p. 312. 704.

17. CHERLE'RIA. Linn. CHERLERIA.

Calyx inferior, of 5 lanceolate, equal, permanent leaves. Petals none, or sometimes 5. Nectaries 5 minute glands, at the base of 5 of the stamens. Filaments subulate; anthers roundish. Germen oval, superior; styles 3, short; stigmas obtuse.

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Capsule ovate, 1-celled, 3-valved. Seeds numerous, angular. —Named after *John Henry Cherler*, a botanist. 258.

1. **C. sedoi'des.** L. *Mossy Cherleria.*——*Roots* densely crowded, bearing close tufts of stems, which, with the slender, oblong, carinate, minutely fringed leaves, form a thick mass of short verdure: flowers yellowish-green. Perennial: flowers in July: grows near the summits of the higher mountains in Scotland. *Eng. Bot.* vol. xvii. pl. 1212. *Eng. Fl.* vol. ii. p. 313. 705.

PENTAGYNIA.

18. COTYLE'DON. Linn. NAVELWORT.

Calyx inferior, of 1 leaf, with 5 acute segments. Corolla campanulate, 5-cleft, Nectaries a concave scale at the base of each germen. Filaments subulate, straight, nearly as long as the corolla; anthers roundish, 2-lobed. Germens 5, oblong, each terminating in a subulate style, which is shorter than the corolla; stigmas simple. Follicles 5, oblong, pointed. Seeds numerous, small.—Named from κοτυλη, a cup. 259.

1. **C. Umbili'cus.** Huds. *Common Navelwort.* Leaves peltate, crenate; flowers clustered, drooping; bracts entire; root tuberous. ——*Stem* about six inches high, purplish: flowers pale-yellow. Perennial: flowers in June and July: grows on rocks and old walls: rare. *Eng. Bot.* vol. v. pl. 325. *Eng. Fl.* vol. ii. p. 314. 706.

19. SE'DUM. Linn. STONECROP.

Calyx inferior, of 1 leaf, deeply divided into 5 acute, permanent segments. Petals 5, lanceolate, spreading. Nectaries a minute notched scale at the base of each germen. Filaments subulate, spreading, as long as the petals; anthers roundish. Germens 5, oblong, each tapering into a short style; stigmas bluntish. Capsules 5, compressed, pointed. Seeds numerous, minute.—Named from *sedeo*, to sit, the plant sitting, as it were, on the rocks. 260.

* *Leaves flat.*

1. **S. Rhodio'la.** De Cand. *Rose-root Stonecrop.* Leaves obovato-oblong, flat, toothed, glabrous; flowers diœcious; carpels 4; stamens 4 or 8.——*Root* thick and fleshy, smelling like roses—at least every one says so, although I have found it rather peculiar: stems herbaceous, simple, from six inches to a foot high: leaves numerous, scattered, obovate, pointed, serrato-dentate at the end, fleshy, glaucous: cyme many-flowered: flowers yellow. Perennial: flowers in June and July: grows on cliffs by the sea, and on high mountains: very abundant on the west coast of the outer Hebrides; found also on the east coast of Buchan. *Rhodiola rosea*, Linn. Sm. *Eng. Bot.* vol. viii. pl. 508. *Eng. Fl.* vol. iv. p. 246. The specific name ought to be *roseum*. 707.

2. **S. Tele'phium.** L. *Orpine*, or *Live-long.* Leaves ovate, flat-

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tish, serrate; corymbs leafy; stem erect.——*Stems* two feet high: leaves fleshy: flowers in dense corymbs, deep-red. Perennial: flowers in August: grows in the borders of fields, in hedges, and among rubbish: frequent. *Sedum purpureum*, Tausch, with lanceolate leaves, all narrowed below, found in Hertfordshire and Westmoreland, is considered a variety of *S. Telephium*. *Eng. Bot.* vol. xix. pl. 1319. *Eng. Fl.* vol. ii. p. 316. 708.

** *Leaves rounded, attached by the base.*

3. **S. dasyphyl'lum.** L. *Thick-leaved White Stonecrop.* Leaves ovate, obtuse, fleshy; stems weak; panicles clammy.——*Root* fibrous, small: stems three or four inches high, rooting at the lower part: lower leaves crowded, opposite: upper scattered: petals white, with a red line in the middle. Perennial: flowers in June: grows on walls and rocks: not common. *Eng. Bot.* vol. x. pl. 656. *Eng. Fl.* vol. ii. p. 317. 709.

4. **S. al'bum.** L. *White Stonecrop.* Leaves oblong, cylindrical, obtuse, spreading, smooth; panicle much branched, cymose.——*Root* fibrous, creeping: stems erect, four or five inches high, round, purplish: flowers numerous, with white petals. Perennial: flowers in July: grows on rocks, walls, and roofs: not common. *Eng. Bot.* vol. xxii. pl. 1578. *Eng. Fl.* vol. ii. p. 320. 710.

5. **S. villo'sum.** L. *Hairy Stonecrop.* Leaves oblong, flattened, slightly hairy, as well as the flower-stalks; stem erect.——*Root* fibrous, small: stem from three to six inches high, spotted with red: leaves scattered: flowers rose-coloured, or white, with a red central line. Perennial: flowers in June and July: grows in moist pastures in Scotland and the north of England: frequent. *Eng. Bot.* vol. vi. pl. 394. *Eng. Fl.* vol. ii. p. 319. 711.

*** *Leaves rounded; spurred at the base.*

6. **S. An'glicum.** Huds. *White English Stonecrop.* Leaves ovate, thick, alternate; cyme of 2 branches.——*Root* fibrous: stems from two to four inches high: flowers white, spotted with red. Annual: flowers in July: grows in dry sterile places and on rocks; common in North Wales, the west of Scotland, and Ireland. *Eng. Bot.* vol. iii. pl. 171. *Eng. Fl.* vol. ii. p. 317. 712.

7. **S. a'cre.** L. *Biting Stonecrop. Wall Pepper.* Leaves ovate, thick, tumid, alternate; cyme of the branches leafy.——*Root* fibrous; stems much branched, two or three inches high: flowers greenish-yellow. The whole plant is intensely acrid, but the acrimony is not perceived until it has been chewed for a little while: it is said to be useful in scrofula. Perennial: flowers in June: grows on rocks and walls: common. *Eng. Bot.* vol. xii. pl. 839. *Eng. Fl.* vol. ii. p. 318. 713.

8. **S. sexangula're.** L. *Insipid Yellow Stonecrop.* Leaves nearly cylindrical, obtuse, fleshy, in 6 or 7 rows; cyme of 3 branches.——*Root* fibrous: stems branched, from two to five inches high: flowers yellow: larger than the last, and insipid. Perennial: flowers in July: grows on walls in England: rare. *Eng. Bot.* vol. xxviii. pl. 1946. *Eng. Fl.* vol. ii. p. 318. 714.

9. **S. reflex'um.** L. *Crooked Yellow Stonecrop.* Leaves subulate, scattered; the lower recurved; flowers cymose; segments of the calyx

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ovate.——*Root* fibrous: stems rooting at the lower part: leaves tapering to a bristly point: flowers bright-yellow, numerous. Perennial: flowers in July: grows on walls and roofs: common. *Eng. Bot.* vol. xxii. pl. 1578. *Eng. Fl.* vol. ii. p. 320. 715.

10. **S. glau'cum.** Sm. *Glaucous Yellow Stonecrop.* Leaves subulate, scattered, glaucous, those of the branches filiform; flowers cymose; segments of the calyx lanceolate.——*Differs* from the last in having more slender leaves and a more glaucous colour. Perennial: flowers in July and August: grows on walls and sandy ground: rare. Generally considered a variety of the last. *Eng. Bot.* vol. xxxv. pl. 2477. *Eng. Fl.* vol. ii. p. 321. 716.

11. **S. rupes'tre.** L. *Bristol Stonecrop.* Leaves glaucous, those of the branches subulate, erect, in 5 rows; flowers cymose; segments of the calyx elliptical.——*Flowers* yellow. Perennial: flowers in July: found on St. Vincent's Rocks at Bristol, and a few other places in England. *Eng. Bot.* vol. iii. pl. 170. *Eng. Fl.* vol. ii. p. 322. 717.

12. **S. Forsteria'num.** Sm. *Welsh Rock Stonecrop.* Leaves of the branches semi-cylindrical, bluntish, pointed in many rows; flowers cymose; segments of the calyx elliptical, obtuse.——*Flowers* yellow. Perennial: flowers in July: grows on rocks in Wales: rare. *Eng. Bot.* vol. xxvi. pl. 1802. *Eng. Fl.* vol. ii. p. 322. 718.

20. O'XALIS. Linn. WOOD-SORREL.

Calyx inferior, deeply divided into 5 acute, permanent segments. Petals 5, much longer than the calyx, obtuse, connected laterally by their claws. Filaments capillary, erect, the 5 outer shorter; anthers roundish. Germen superior, oblong, 5-cornered; styles 5, filiform; stigmas obtuse, downy. Capsule membranous, 5-cornered, 5-celled. Seeds roundish, polished. Named from ὀξυς, acid. 261.

1. **O. Acetosel'la.** L. *Common Wood-Sorrel.* Leaves all radical, ternate, obcordate, hairy; scape single-flowered; root scaly.——*Leaflets* bright-green, often purplish beneath: bracts 2, opposite: petals white, streaked with purplish veins: the whole plant is intensely acid. Perennial: flowers in April and May: grows in woods and shady places: common. *Eng. Bot.* vol. xi. pl. 762. *Eng. Fl.* vol. ii. p. 323. 719.

2. **O. cornicu'lata.** L. *Yellow Procumbent Wood-sorrel.* Stem branched, procumbent; flowers in small umbels; stipules united to the base of the flower-stalks.——*Root* fibrous: stem spreading on the ground, often rooting: petals yellow, strongly combined. Annual: flowers from May to October: grows in shady waste ground in the south of England: rare. *Eng. Bot.* vol. xxiv. pl. 1726. *Eng. Fl.* vol. ii. p. 325. 720.

21. AGROSTEM'MA. Linn. COCKLE.

Calyx inferior, tubular, leathery, strongly ribbed, 5-toothed, permanent. Petals 5; the claws as long as the tube of the calyx, the border spreading, undivided, crownless. Filaments subulate, 5 shorter; anthers oblong, notched. Germen supe-

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rior, ovate; styles filiform, erect, as long as the stamens; stigmas slender, downy. Capsule ovate, 1-celled, 5-valved. Seeds numerous, reniform, granulated, stalked.—Name, ἀγρου στεμμα, crown of the field. 262.

1. A. Githa'go. L. *Corn Cockle.* Stem from two to three feet high, covered with white hairs: leaves sessile, narrow-lanceolate: flowers large, with purple petals: teeth of the calyx rising above the corolla: petals undivided, without teeth. Annual: flowers in July: grows among wheat: a troublesome weed. *Eng. Bot.* vol. xi. pl. 741. *Eng. Fl.* vol. ii. p. 325. 721.

22. LY'CHNIS. Linn. LYCHNIS.

Calyx inferior, tubular, membranous, ribbed, 5-toothed, permanent. Petals 5; the claws as long as the tube of the calyx, the border spreading. Filaments longer than the calyx; anthers oblong. Germen superior, nearly ovate. Styles 5, sometimes 3 or 4, subulate, longer than the stamen; stigmas downy, reflexed. Capsule ovate, 1-, 3-, or 5-celled, opening by 5 or 10 teeth. Seeds numerous, roundish, roughish.—Name from λυχνος, a lamp. 263.

1. L. Flos-Cu'culi. L. *Meadow Lychnis. Ragged Robin.* Petals divided into four linear segments; capsule nearly globose, 1-celled; stem rough with deflexed bristles.——*Stem* erect, from one to two feet high, furrowed, the upper part clammy: leaves lanceolate: panicle terminal, forked, clammy: flowers rose-coloured: calyx purplish-red, the ribs darker. Perennial: flowers in June: grows in moist meadows: common. *Eng. Bot.* vol. viii. pl. 573. *Eng. Fl.* vol. ii. p. 326. 722.

2. L. Visca'ria. L. *Rock Lychnis. Red German Catchfly.* Petals slightly cleft; capsule 5-celled, stalked; leaves fringed at the base. ——*Stems* a foot high, round, smooth, clammy on the upper part: leaves narrow-lanceolate, with a slight woolly fringe at the base: petals rose-coloured, veined. Perennial: flowers in May and June: grows in rocky places: not frequent. *Eng. Bot.* vol. xi. pl. 788. *Eng. Fl.* vol. ii. p. 327. 723.

3. L. alpi'na. L. *Red Alpine Lychnis* or *Campion.* Flowers densely corymbose; capsule 5-celled, stalked: leaves narrow-lanceolate, naked at the base.——*Stem* nearly a foot high, not clammy: flowers rose-coloured: the petals cleft, with two small protuberances at the base of the limb. Perennial: flowers in June and July: grows on the summit of the Little Kilrannoch, in Clova. *Eng. Bot.* vol. xxxii. pl. 2254. *Eng. Fl.* vol. ii. p. 328. 724.

4. L. diur'na. Sibth. *Common Red Lychnis. Red Campion.* Flowers diœcious; petals cleft, crowned with 4 teeth: capsule 1-celled, roundish: leaves ovate, acute.——*Stem* from one to two feet high, slightly clammy: panicle terminal, many-flowered: petals thin, bright rose-coloured. Perennial: flowers in May and June: grows in woods, hedges, and shady waste places: common. *Eng. Bot.* vol. xxii. pl. 1579. *L. dioica,* var. *a.* *Eng. Fl.* vol. ii. p. 328. 725.

5. L. vesperti'na. Sibth. *White* or *Corn Lychnis.* Flowers

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diecious; petals cleft, crowned with 4 teeth; capsule 1-celled, conical; leaves between oblong and lanceolate.——*Stem* from eighteen inches to three feet high: panicle terminal, many-flowered: petals somewhat leathery, white. The flowers emit a pleasant odour in the evening. This and the preceding are considered by most botanists as forming only one species. Perennial: flowers from June to September: grows in corn-fields and waste places: not common. *Eng. Bot.* vol. xxii. pl. 1583. *L. dioica*, var. β. *Eng. Fl.* vol. ii. p. 328. 726.

23. CERAS'TIUM. Linn. MOUSE-EAR CHICKWEED.

Calyx inferior, of 5 ovate, acute, permanent leaves, membranous at the edges. Petals 5, divided, obtuse, about the length of the calyx. Filaments filiform, generally 10, sometimes 5 or 4; alternately shorter; anthers roundish, 2-lobed. Germen ovate, superior, sessile; styles 5, rarely 4 only, short; stigma bluntish, downy. Capsule thin, ovate or cylindrical, 1-celled, opening above with 10 equal teeth. Seeds numerous, roundish, rough.—Name from κέρας, a horn, on account of the curved capsules of some species. 264.

1. C. vulga'tum. L. *Broad-leaved Mouse-ear Chickweed.* Leaves ovate, hairy: petals as long as the calyx; flowers longer than their stalks.——*Root* fibrous, small: stems numerous, from four to nine inches long: leaves and stems hairy and pale-green: capsule twice as long as the calyx, cylindrical. Annual: flowers in the summer months; grows in fields and waste ground: common. *Cerastium glomeratum*, Thuil. Bab. *Eng. Bot.* vol. xi. pl. 789. *Eng. Fl.* vol. ii. p. 330. 727.

2. C. visco'sum. L. *Narrow-leaved Mouse-ear Chickweed.* Leaves between oblong and lanceolate, hairy; flowers shorter than their stalks.——*Roots* fibrous, small: stems numerous, from four to twelve inches long: leaves and stems hairy, dark-green, and somewhat clammy. Perennial: flowers during the summer months: grows in fields and waste grounds: common. *Cerastium triviale.* Link. Bab. *Eng. Bot.* vol. xi. pl. 790. *Eng. Fl.* vol. ii. p. 331. 728.

3. C. semide'candrum. L. *Small Mouse-ear Chickweed.* Leaves ovate, inclining to oblong; petals slightly cleft; stamens 5.——*Stem* generally branched, spreading at the base, three or four inches high: leaves and stems hairy, very clammy, and generally covered with particles of sand and dust; stamens usually 5, sometimes 10. Annual: flowers in April and May: grows in sandy ground, and on walls: common. *Eng. Bot.* vol. xxiii. pl. 1630. *Eng. Fl.* vol. ii. p. 331. 729.

4. C. tetran'drum. Curt. *Tetrandrous Mouse-ear Chickweed.* Leaves broadly elliptical, obcordate; petals 4, or oblong, shorter than the 4-leaved calyx; stamens 4.——*Stems* procumbent, from two to five inches long, forked: flower-stalks nearly thrice the length of the calyx: the whole plant hairy and somewhat clammy. Annual: flowers in May and June: grows in sandy pastures and waste grounds, and on walls: common. *Sagina cerastoides. Eng. Bot.* vol. iii. pl. 166. *Eng. Fl.* vol. ii. p. 332. 730.

5. C. arve'nse. L. *Field Mouse-ear Chickweed.* Leaves narrow-

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lanceolate, fringed at the base; petals twice the length of the calyx. ——*Roots* creeping: stems numerous, covered with fine deflexed hairs, from four inches to a foot high: leaves and stem hairy: panicles few-flowered: petals large, white. Perennial: flowers in the summer months: grows in fields and dry gravelly pastures. *Eng. Bot.* vol. ii. pl. 93. *Eng. Fl.* vol. ii. p. 333. 731.

6. **C. alpi'num.** L. *Alpine Mouse-ear Chickweed.* Leaves ovate, elliptical, or oblong, covered with long silky hairs, or nearly smooth; panicle few-flowered; capsule oblong, recurved. *Root* creeping; stems three or four inches high, generally hairy: petals obcordate, much longer than the calyx. Perennial: flowers in June and July: grows on the higher mountains of Scotland and Wales. *Eng. Bot.* vol. vii. pl. 472. *Eng. Fl.* vol. ii. p. 334. 732.

7. **C. latifo'lium.** L. *Broad-leaved Alpine Mouse-ear Chickweed.* Leaves between ovate and elliptical: rough, with short bristly hairs; flowers terminal, generally solitary; capsule ovate at the base. ——*Stems* three or four inches high, and, together with the leaves, covered with short, stiff hairs: capsule straight: petals obcordate, much longer than the calyx. Perennial: flowers in June and July: grows on the higher mountains of Scotland and Wales. A stunted variety with roundish-ovate crowded leaves, occurs in Unst, Shetland. *Eng. Bot.* vol. vii. pl. 473. *Eng. Fl.* vol. ii. p. 234. 733.

24. MALA'CHIUM. Fries. WATER CHICKWEED.

Calyx inferior, of 5 ovate, acute, permanent leaves, membranous at the edges. Petals 5, deeply divided, obtuse, about the length of the calyx. Filaments filiform, 10, alternately shorter; anthers roundish, 2-lobed. Germen superior, sessile; styles 5. Capsule 1-celled, opening with 5 valves, each slit at the tip. Seeds numerous.—Name from μαλακος, soft. 265.

1. **M. aqua'ticum.** L. Fries. *Common Water Chickweed.* Root creeping; stems weak, one or two feet long, branched, covered, as well as the leaves, with long hairs, and clammy at the upper part: leaves cordate, sessile, flowers solitary: petals deeply divided, about the same length as the calyx, white: capsules drooping. Perennial: flowers in July: grows by the sides of rivers and ditches: not common. *Eng. Bot.* vol. viii. pl. 538. *Eng. Fl.* vol. ii. p. 335. 734.

25. SPER'GULA. Linn. SPURREY.

Calyx inferior, of 5 ovate, obtuse, permanent leaves, membranous at the edges. Petals 5, ovate, larger than the leaves of the calyx, undivided. Filaments 10, sometimes 5, subulate, shorter than the corolla; anthers roundish, 2-lobed. Germen superior, ovate; styles short, slender, spreading; stigmas downy. Capsule ovate, membranous, 1-celled, 5-valved. Seeds roundish, compressed.—Name from *spargo*, to scatter, the seeds being widely spread when the capsule bursts. 266.

1. **S. arven'sis.** L. *Corn Spurrey.* Leaves in tufts, linear; stalks of the fruit reflexed.——*Root* small, tapering: stem from six inches to a foot high, branched, swelling at the joints, hairy and

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clammy: leaves nearly cylindrical: stipules in pairs under each whorl: flowers in terminal panicles: petals white: seeds with a membranous border. Annual: flowers in June and July: grows in corn-fields: abundant. *Eng. Bot.* vol. xxii. pl. 1536. *Eng. Fl.* vol. ii. p. 337. 735.

Class XI. DODECANDRIA.

Plants bearing Flowers with twelve Stamens.

Order I. MONOGYNIA. *One Pistil.*

1. A'SARUM. *Perianth* campanulate, 3-cleft, superior. *Capsule* 6-celled.
2. LY'THRUM. *Petals* 6. *Calyx* 12-cleft, inferior.

Order II. DIGYNIA. *Two Pistils.*

3. AGRIMO'NIA. *Petals* 5. *Calyx* 5-cleft. *Nuts* 2, in the bottom of the hardened calyx.

Order III. TRIGYNIA. *Three Pistils.*

4. RE'SEDA. *Petals* unequal, in many segments. *Capsule* 1-celled, gaping.

Order IV. TETRAGYNIA. *Four Pistils.*

(*Tormentilla officinalis. Cl. XII.*)

Order V. DODECAGYNIA. *Twelve Pistils.*

5. SEMPERVI'VUM. *Petals* 12. *Calyx* with 12 divisions. *Capsules* 12.

DODECANDRIA.—MONOGYNIA.

1. A'SARUM. Linn. ASARABACCA.

Perianth campanulate, leathery, coloured, permanent, in 3 deep segments. Filaments subulate, half the length of the calyx; anthers adnate, of 2 round, separated cells. Germen inferior; turbinate; style thick, furrowed, nearly as long as the stamens; stigma 6-cleft, with recurved segments. Capsule leathery, 6-celled, not bursting. Seeds several in each cell, obovate.—Named from α, not, and σειρα, a band, because rejected from the garlands of the ancients. 267.

1. **A. Europæ'um.** L. *Common Asarabacca.* Leaves 2 on each stem, reniform, obtuse.——*Roots* creeping: stems very short, simple, round, each bearing 2 leaves, and a single flower, of a greenish-brown colour: filaments extending beyond the anthers. The powdered root acts as an emetic; the powder of the leaves occasions a discharge from the nostrils, without much sneezing, and forms the base of cephalic snuffs. Perennial: flowers in May: grows in mountainous woods in the north of England, but is not a native plant. *Eng. Bot.* vol. xvi. pl. 1083. *Eng. Fl.* vol. ii. p. 342. 736.

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2. LYTHRUM. Linn. PURPLE-LOOSE STRIFE.

Calyx inferior, cylindrical, with 8 or 12 marginal divisions, alternately smaller and larger. Petals 4 or 6, oblong, equal, with short claws inserted into the calyx. Filaments filiform, shorter than the corolla, 6 alternate ones shorter; anthers roundish, incumbent. Germen superior, oblong. Style filiform, as long as the stamens, a little curved; stigma capitate. Capsule oblong, membranous, 2-celled, pointed, inclosed in the tube of the calyx. Seeds numerous, oblong, minute.—Name λυθρον, blood, from the colour of the flowers. 268.

1. L. **Salica'ria.** L. *Spiked Purple-loose Strife.* Leaves opposite, lanceolate, cordate at the base; flowers in whorled leafy spikes. ——*Stem* erect, square, from two to four feet high: flowers purplish-red, forming a very beautiful showy spike: the whole plant is astringent. Perennial: flowers in July and August: grows in watery places: frequent. *Eng. Bot.* vol. xv. pl. 1061. *Eng. Fl.* vol. ii. p. 343. 737.

2. L. **hyssopifo'lium.** L. *Hyssop-leaved Purple-loose Strife. Grasspoly.* Leaves alternate, narrow lanceolate; flowers axillar, solitary; stamens 6.——*Stems* decumbent, one of them erect: flowers small, pale-purple. Annual: flowers in August: grows in watery places in England: not common. *Eng. Bot.* vol. v. pl. 292. *Eng. Fl.* vol. ii. p. 344. 738.

DIGYNIA.

3. AGRIMO'NIA. Linn. AGRIMONY.

Calyx inferior, tubular, permanent, with 5 small marginal segments. Petals 5, flat, notched. Filaments capillary, shorter than the corolla, varying in number; anthers small, 2-lobed, compressed. Germens ovate, compressed, in the bottom of the calyx. Styles as long as the stamens, lateral; stigma obtuse, undivided. Achenia generally 2, ovate, compressed, pointed, smooth, included in the hardened tube of the calyx.—Name corrupted from *Argemone.* 269.

1. A. **Eupato'ria.** L. *Common Agrimony.* Stem leaves interruptedly pinnate, with oblong leaflets, the terminal one stalked; calyx bristly; spikes elongated.——*Root* tapering: stems from one to two feet high, generally simple: flowers very numerous, yellow, in a close tapering spike, with divided bracts. Perennial: flowers in June and July: grows by road-sides, and in hedges and the margin of fields: common. This plant is slightly bitter, aromatic, and astringent, and was formerly in great repute for its medicinal properties. *Eng. Bot.* vol. xix. pl. 1335. *Eng. Fl.* vol. ii. p. 346. 739.

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TRIGYNIA.

4. RE'SEDA. Linn. YELLOW-WEED.

Calyx inferior, deeply divided into several narrow, irregular, permanent segments. Petals 3, 4, 5, or 6, unequal, deciduous, variously jagged. Nectary a flat, erect, permanent coloured gland, between the uppermost petal and the stamens. Filaments variable in number, capillary, drooping, short; anthers oblong, erect. Germen superior, angular; styles terminal, short; stigma obtuse. Capsule urceolate, angular, leathery, 1-celled. Seeds numerous, reniform, stalked, on 3 or 4 parietal placentas.—Named from *resedo*, to calm, from its supposed effect on the system. 270.

1. **R. Lute'ola.** L. *Common Yellow-weed or Weld. Dyer's Weed.* Leaves lanceolate, undivided; calyx with 4 segments.——*Stems* two or three feet high, striated, smooth, branched: leaves frequently furnished with a small tooth on each side at the base: clusters terminal, erect, of numerous small flowers, with 3 greenish-white petals, of which the uppermost is variously lobed, the lateral ones of 3 acute lobes. Annual: flowers in July: grows in waste ground: common. This plant affords a beautiful yellow dye, and is cultivated for that purpose. *Eng. Bot.* vol. v. pl. 320. *Eng. Fl.* vol. ii. p. 347. 740.

2. **R. lu'tea.** L. *Rocket Yellow-weed. Base Rocket.* Leaves deeply 3-lobed, lower ones pinnatifid; calyx with 6 divisions.——*Stem* about two feet high, bushy, branched, striated, smooth: leaves somewhat stalked: clusters terminal, many-flowered, tapering: petals 6, buff-coloured, variously lobed. Perennial: flowers in July and August: grows in waste places and dry pastures: frequent. *Eng. Bot.* vol. v. pl. 321. *Eng. Fl.* vol. ii. p. 348. 741.

3. **R. fruticulo'sa.** L. *Shrubby Base Rocket.* Leaves all pinnate, waved, glaucous; calyx deeply 5-cleft; petals 5, 3-cleft at the summit.——*Root* woody, tapering: stems two or three feet high, leafy: flowers in terminal racemes, yellowish white. Perennial: flowers in June: found in various parts of England and Ireland: rare. It is an introduced plant. *Eng. Bot. Suppl.* pl. 2628. *Brit. Fl.* 4th ed. p. 192. 742.

DODECAGYNIA.

5. SEMPERVI'VUM. Linn. HOUSE-LEEK.

Calyx inferior, deeply divided into several acute segments, permanent. Petals from 6 to 12, corresponding to the segments of the calyx, somewhat larger, lanceolate, acute, equal, withering. Filaments as many, or twice as many, as the petals, subulate, shorter than the corolla; anthers of 2 round lobes. Germens as many as the stamens, ranged in a circle, oblong, pointed, compressed; styles short, spreading; stigma obtuse. Follicles oblong, compressed, pointed. Seeds numerous, minute,

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ranged along the inner margin on each side.—Name, *semper*, ever, and *vivum*, alive. 271.

1. S. tecto'rum. L. *Common House-leek.* Leaves ciliated; offsets spreading.——*Root* fibrous, crowned with several dense tufts of numerous oblong, acute, fringed, very thick and succulent leaves: stem from the centre of one of the tufts, about a foot high, clothed with narrow, alternate, sessile leaves, and terminating in a cyme of large rose-coloured flowers. Perennial: flowers in July and August: grows on walls and house-tops, but is not indigenous. The leaves are said to be cooling, when applied externally, and frequently renewed. They are used by country people for corns. *Eng. Bot.* vol. xix. pl. 1320. *Eng. Fl.* vol. ii. p. 350. 743.

Class XII. ICOSANDRIA.

Plants bearing Flowers with Twenty or more Stamens, arising from the inner edge of the Calyx.

Order I. MONOGYNIA. *One Pistil.*

1. PRU'NUS. *Calyx* inferior, 5-cleft. *Petals* 5. *Nut* of the *Drupe* smooth, or with slightly prominent seams.
(*Mespilus Oxyacantha.*)

Order II. PENTAGYNIA. *From Two to Five Pistils.*

2. CRATÆ'GUS. *Calyx* superior, 5-cleft, with the segments small. *Petals* 5, large, roundish. *Cells* of the fruit long.
3. MES'PILUS. *Calyx* superior, 5-cleft, with large foliaceous segments. *Petals* 5. *Apple* with from 2 to 5 hard 1-valved capsules. *Seeds* 2.
4. COTONEAS'TER. *Calyx* superior, 5-cleft, with the segments small. *Petals* 5, small, erect. *Cells* of the fruit cartilaginous.
5. PY'RUS. *Calyx* superior, 5-cleft, with the segments small. *Petals* 5. *Apple* with from 2 to 5 membranous, 2-valved capsules. *Seeds* 2.
6. SPIRÆ'A. *Calyx* inferior, 5-cleft. *Petals* 5. *Capsules* membranous, 2-valved. *Seeds* numerous.

Order III. POLYGYNIA. *More than Five Pistils.*

7. RO'SA. *Calyx* 5-cleft, the tube urceolate, finally pulpy, lined with hairs, and containing numerous bristly *achenes.*
8. RU'BUS. *Calyx* 5-cleft. *Drupes* numerous, pulpy, deciduous. *Receptacle* spongy and permanent.
9. FRAGA'RIA. *Calyx* 10-cleft. *Petals* 5. *Achenes* naked, even, on the surface of a pulpy deciduous receptacle.
10. POTENTIL'LA. *Calyx* 10-cleft. *Petals* 5. *Achenes* naked, rugged, fixed to a small dry receptacle.
11. TORMENTIL'LA. *Calyx* 8-cleft. *Petals* 4. *Achenes* naked. *Receptacle* dry.

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12. GE'UM. *Calyx* 10-cleft. *Petals* 5. *Achenia* each with a bent, hooked tail. *Receptacle* dry, elongated.
13. DRY'AS. *Calyx* 8- or 10-cleft. *Petals* 5 or 8. *Achenia* each with a long feathery tail.
14. CO'MARUM. *Calyx* 10-cleft. *Petals* 5. *Achenia* naked, even, on the surface of a spongy, hairy, permanent receptacle.

(*Spiræa Ulmaria* and *Filipendula.*)

ICOSANDRIA.—MONOGYNIA.

1. PRU'NUS. Linn. CHERRY.

Calyx inferior, campanulate, deciduous, with 5 obtuse marginal segments. Petals 5, roundish, spreading, larger than the segments of the calyx. Filaments subulate, nearly as long as the corolla; anthers short, 2-lobed, round. Germen superior, roundish; style filiform, terminal, as long as the stamens; stigma round. Drupe roundish. Nut very hard, 1-celled, 2-valved; the valves prominent at the margin. Seed 1, suspended from the top.—Name, προυνη, of Theophrastus. 272.

1. **P. Pa'dus.** L. *Bird Cherry.* Flowers in pendulous racemes; leaves obovate, deciduous, with 2 glands at the base beneath.——*A* small tree with smooth branches: acute, doubly serrate leaves: beautiful clusters of white flowers, and small black harsh drupes. Flowers in May: grows in woods in Scotland and the north of England: frequent. *Eng. Bot.* vol. xx. pl. 1385. *Eng. Fl.* vol. ii. p. 354. 744.

2. **P. A'vium.** L. *Wild Cherry. Gean-tree.* Flowers in nearly sessile umbels; leaves drooping, obovato-lanceolate, deeply serrate, downy beneath.——*A tree,* with very smooth bark; pointed, serrate leaves, with 2 unequal glands at the base: white flowers, and black, sweet, somewhat austere drupes. Several varieties occur, differing chiefly in the colour of the fruit; said to be the original of the common garden Cherry. Flowers in April: grows in woods and hedges: common. *Eng. Bot.* vol. x. pl. 706. *Eng. Fl.* vol. ii. p. 354. 745.

3. **P. Cera'sus.** L. *Morello Cherry.* Flowers in nearly sessile umbels; leaves not drooping, ovato-lanceolate, or obovate, crenato-serrate, glabrous.——*A bushy* shrub, with smooth bark: acute serrate leaves, with 2 unequal glands at the base: white flowers, and red, acid drupes: inner scales of flower-buds leafy. Flowers in April; grows in woods and hedges in England: said to be the original of the Morello Cherry. *Eng. Bot. Suppl.* 2863. 746.

4. **P. insiti'tia.** L. *Wild Bullace-tree.* Flower-stalks in pairs; leaves ovato-lanceolate, downy beneath; branches ending in a thorn. ——*A small* tree, with spreading round branches: leaves on small lateral branches, alternate, serrate, downy beneath: flowers on simple stalks, not much larger than the calyx: petals white: fruit globular; austere, black, with blue bloom. Flowers in April: grows in woods, thickets, and hedges. *Eng. Bot.* vol. xii. pl. 841. *Eng. Fl.*

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vol. ii. p. 356. A variety without thorns is not unfrequent. It is the *P. domestica, Wild Plum-tree. Eng. Bot.* pl. 1783. 747.

5. **P. spino'sa.** L. *Sloe-tree. Blackthorn.* Flower-stalks generally single; leaves between elliptico-lanceolate, smooth; branches ending in a thorn.——*A small* tree or bush; with irregularly spreading round branches: leaves serrate: flowers very numerous, with pure white petals; fruit black, with a bluish bloom, very austere. Flowers in March and April: grows in thickets, hedges, and on dry banks: common. The leaves, which are astringent, have been used to adulterate tea. *Eng. Bot.* vol. xii. pl. 842. *Eng. Fl.* vol. ii. p. 357. 748.

PENTAGYNIA.

2. CRATÆ'GUS. Linn. HAWTHORN.

Calyx superior, with 5 short, acute, permanent segments. Petals 5, round, from the edge of the calyx-tube. Filaments subulate, incurved; anthers roundish, 2-lobed. Germen inferior, roundish; styles from 1 to 5, filiform, erect; stigma knobbed. Fruit globular, concave at the top, concealing the upper end of the bony 1- or 2-seeded carpels.—Named from κρατος, strength. 273.

1. **C. Oxyacan'tha.** L. *Hawthorn. Whitethorn.* Branches thorny; leaves 3- or 5-lobed, serrate, smooth; flowers in terminal corymbs; styles generally 2, often 1.——*A small* tree or shrub, with smooth bark: thorns small, subulate: flowers white, sometimes pink: fruit mealy, deep-red. The wood is very hard: the flowers emit a very agreeable odour: and the berries which remain upon the branches during the winter are eaten by numerous species of small birds. Its value for hedges is well known. Flowers in May and June: grows in thickets and hedges, and by rivers. *Eng. Bot.* vol. xxxv. pl. 2504. *Eng. Fl.* vol. ii. p. 359. 749.

3. MES'PILUS. Linn. MEDLAR.

Calyx superior, with 5 foliaceous segments. Petals 5, round, from the edge of the calyx-tube. Filaments subulate; anthers roundish, 2-lobed. Styles from 2 to 5. A very large nectariferous disk. Fruit turbinate, with the upper ends of the bony carpels exposed.—Named from μεσπιλη, medlar. 274.

1. **M. germa'nica.** L. *Common Medlar.* Leaves lanceolate, somewhat downy; flowers solitary, nearly sessile, terminal; styles 5. ——*Branches* thorny: leaves alternate, entire, veined: flowers large, with white undulated petals: fruit depressed, austere. A small tree: flowers in May: grows in hedges, in some of the southern counties of England: rare. *Eng. Bot.* vol. xxii. pl. 1523. *Eng. Fl.* vol. ii. p. 360. 750.

4. COTONEAS'TER. Lindl. COTONEASTER.

Calyx superior, turbinate, with 5 short segments. Petals 5,

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round, from the edge of the calyx-tube. Filaments subulate, erect; anthers roundish, 2-lobed. Germen inferior, roundish; styles from 2 to 5, filiform, erect; stigma knobbed. Fruit turbinate, its nuts adhering to the sides of the calyx, but not cohering in the centre.—Named from *Cotoneum*, the Quince. 275.

1. C. vulga'ris. Lindl. *Common Cotoneaster. Dwarf Quince-leaved Medlar.* Leaves broadly ovate, entire, downy beneath; germen smooth; styles 3 or 4.——*A small* bush, without thorns: flowers drooping, pale-red: fruit small, red, mealy. Flowers in July: grows on the cliffs at Orme's Head, Caernarvonshire. *Eng. Bot. Suppl.* pl. 2713. *Eng. Fl.* vol. ii. p. 360. 751.

5. PYRUS. Linn. PEAR. APPLE. SERVICE.

Calyx superior, deeply divided into 5 permanent segments. Petals 5, roundish, much larger than the segments of the calyx, and rising from its edge. Filaments subulate, shorter than the corolla; anthers oblong, 2-lobed. Germen inferior, roundish; styles from 2 to 5, filiform, as long as the stamens; stigmas simple. Apple roundish or oblong, pitted at the top, fleshy, with as many bivalve membranous cells as there are styles. Seeds 2 in each cell, obovate, flattened on one side.—Named from the Celtic *peren*, a pear. 276.

1. P. commu'nis. L. *Wild Pear-tree.* Leaves simple, ovate, serrate; flower-stalks corymbose; fruit turbinate, styles free.——*A tall* tree with thorny branches: leaves serrate, smooth, downy when young: flower-stalks terminal, downy: flowers numerous, snow-white: fruit obovate or turbinate, hard and austere. Flowers in April and May: grows in woods and hedges: not common. *Eng. Bot.* vol. xxv. pl. 1784. *Eng. Fl.* vol. ii. p. 302. 752.

2. P. Ma'lus. L. *Wild Apple-tree. Crab-tree.* Leaves ovate, acute, serrate; flowers in a simple sessile umbel; fruit globose, styles connected below.——*A small* tree, with spreading irregular branches: flowers white, tinged with rose-colour. This is the original of all the varieties of the Apple: the fruit is globular, yellowish, tinged with red, acid and harsh. Flowers in May: grows in woods and hedges: common. *Eng. Bot.* vol. iii. pl. 179. *Eng. Fl.* vol. ii. p. 363. 753.

3. P. tormina'lis. Sm. *Wild Service-tree.* Leaves simple, somewhat cordate, serrate, 7-lobed, branched, corymbose.——*A tree,* with white flowers, in large, terminal, downy panicles: fruit brown, acid. Flowers in April and May: grows in woods and hedges, in the south of England: frequent. *Eng. Bot.* vol. v. pl. 298: *Cratægus torminalis. Eng. Fl.* vol. ii. p. 363. 754.

4. P. domes'tica. Sm. *True Service-tree.* Leaves pinnate, with uniform leaflets, downy beneath, and serrate towards the end; flowers panicled; fruit obovate.——*A large* tree, with cream-coloured flowers: fruit reddish, spotted, austere. Flowers in May: grows in mountainous woods in England: very rare. *Eng. Bot.* vol. v. pl. 350. *Eng. Fl.* vol. ii. p. 364. 755.

5. P. Aucupa'ria. L. *Mountain Ash, Quicken, Rowan* or *Roan-*

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tree. Leaves pinnate, with uniform, serrate, smooth leaflets; styles about 3; fruit globular.——*A* beautiful tree, with smooth branches: panicle corymbose, with downy stalks: flowers numerous, white: fruit scarlet, acid, and austere. The fruit is eaten by several species of small birds, especially of the thrush kind. A spirit has been distilled from them. Flowers in May and June: grows in mountainous woods: common. *Eng. Bot.* vol. v. pl. 337; *Sorbus aucuparia. Eng. Fl.* vol. ii. p. 365. A variety with deeply pinnatifid leaves is the *P. pinnatifida* of Ehrh. *Sorbus hybrida.* L. It is found in the northern part of the Island of Arran. *Eng. Bot.* vol. xxxiii. pl. 2331. 756.

6. P. A'ria. L. *White-beam.* Leaves simple, elliptical, cut, serrate, transversely furrowed, downy beneath; flowers corymbose; styles about 2.——*A tree* of moderate size, with smooth branches, the younger white and downy: flowers white, with downy stalks: fruit globular, scarlet, mealy, astringent. Flowers in May: grows in mountainous woods, and the fissures of rocks: not common. *Eng. Bot.* vol. xxvi. pl. 1858. *Eng. Fl.* vol. ii. p. 366. 757.

6. SPIRÆ'A. Linn. SPIRÆA. MEADOW-SWEET. DROPWORT.

Calyx inferior, with 5 acute, permanent, marginal segments. Petals 5, roundish, or oblong. Filaments capillary, nearly as long as the corolla; anthers roundish, 2-lobed. Germens 5 or more, superior, ovate, or oblong, compressed. Styles, 1 terminating each germen; stigmas obtuse, spreading. Capsules as many as the germens, oblong, pointed, compressed, 2-valved, 1-celled. Seeds few, small, oblong.—Name, σπειρεια, of Theophrastus. 277.

1. S. salicifo'lia. L. *Willow-leaved Spiræa.* Leaves between elliptico-lanceolate, unequally serrate, smooth; clusters terminal, compound.——*A shrub* about four feet high, with smooth straight stems and branches: flowers pink, small, numerous, in terminal clusters: styles 5. Flowers in July: grows in moist mountainous situations, but never truly wild: rare. *Eng. Bot.* vol. xxi. pl. 1468. *Eng. Fl.* vol. ii. p. 368. 758.

2. S. Filipen'dula. L. *Common Dropwort.* Leaves interruptedly pinnate, leaflets uniform, serrate; flowers cymose; stem herbaceous.——*Root* woody, with hard elliptical knobs; stem about a foot high, round, smooth, panicled at the top: leaves chiefly radical, spreading: panicle forked, with cream-coloured flowers, tinged with red externally. Perennial: flowers in July: grows in open pastures. *Eng. Bot.* vol. iv. pl. 284. *Eng. Fl.* vol. ii. p. 369. 759.

3. S. Ulma'ria. L. *Meadow-sweet.* Leaves interruptedly pinnate, downy beneath, the terminal leaflet largest, and lobed; stem herbaceous, flowers cymose.——*Root* fibrous, stems from two to four feet high, angular, branched: flowers very numerous, cream-coloured, sweet-scented, in dense compound panicles. The whole plant is astringent; a decoction of it with copperas is used in the Hebrides for dyeing black. Perennial: flowers in June and July: grows in meadows, and about the edges of rivers and ditches. *Eng. Bot.* vol. xiv. pl. 960. *Eng. Fl.* vol. ii. p. 369. 760.

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POLYGYNIA.

7. RO'SA. Linn. ROSE.

Calyx with an urceolate tube, contracted at the summit, permanent, and finally succulent, the limb deeply divided into 5 deep, lanceolate, pointed segments, either all simple, or 2 of them with leafy appendages on both sides, one with appendages on one side only, and the other two naked on both sides. Petals 5, roundish or obcordate. Filaments filiform, numerous, much shorter than the petals; anthers roundish, flattened, 2-lobed. Germens numerous, oblong, lining the tube of the calyx, interspersed with silky hairs; styles 1 to each germen, lateral; stigmas obtuse. Fruit globular or ovate, formed of the permanent, pulpy, coloured tube of the calyx, closed at the top. Carpels numerous, bristly, lining the calyx, and interspersed with hairs.—Named from the Celtic *rhos*. 278.

* *Branches covered with bristles. Prickles slender, nearly straight.*

1. **R. Dickso'ni.** Lind. *Dickson's Rose.* Fruit ovate; flower-stalks bristly, enlarged at their upper part; prickles of the stem scattered; leaflets oval, gray on both sides with fine hairs, their serratures mostly double.——*Stem* erect, with spreading, flexuous branches, dark-red tinged with gray: leaflets 5 or 7: petals shorter than the calyx, deep-pink. Flowers in June: discovered in Ireland by Mr. J. Drummond, but considered as probably not indigenous. *Eng. Bot. Suppl.* pl. 2707. *Brit. Fl.* 4th ed. p. 198. 761.

2. **R. cinnamo'mea.** L. *Cinnamon Rose.* Fruit ovate or globular, smooth; flower-stalks smooth; prickles of the stem very unequal, numerous, horizontal, subulate; leaflets oblong, simply serrate.——*Stem* four or five feet high, with deep-red bark, and slender horizontal or deflexed prickles: stipules oblong, pointed, fringed with glands: leaflets grayish-green, downy, without glands: petals broad, concave, purplish-red: fruit deep-red. Flowers in May, and through the summer: grows at Birkhill, in Ayrshire: certainly introduced. *Eng. Fl.* vol. ii. p. 374. *Brit. Fl.* p. 224. 762.

3. **R. rubel'la.** Sm. *Red-fruited Dwarf Rose.* Fruit globular; flower-stalks bristly; prickles of the stem straight, scattered; leaflets elliptical or roundish, smooth, generally with simple serratures.——*Stem* bushy, two or three feet high, round, branched, spreading, covered with very slender prickles, and glandular bristles: stipules glandular at the margin: leaflets from 7 to 11, paler beneath: petals white, tinged with pink: fruit bright scarlet. Flowers in May: grows on the sandy sea-coast of Northumberland, and at Abergeldy. Probably a variety of *R. spinosissima*. *Eng. Bot.* vol. xxxvi. pl. 3521. *Eng. Fl.* vol. ii. p. 375. 763.

4. **R. spinosis'sima.** L. *Burnet Rose.* Fruit globular; flower-stalks and calyx nearly smooth; prickles of the stem straight, unequal, numerous, intermixed with glandular bristles; leaflets roundish, smooth, with simple serratures.——*Stem* bushy, two or three feet high, covered with numerous, unequal, straight, slender prickles, interspersed with glandular bristles: stipules fringed with glands:

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leaflets 7 or 9, smooth; petals cream-coloured, yellow at the base; fruit purplish-black. Flowers in July: grows on sandy heaths and dry banks: common. *Eng. Bot.* vol. iii. pl. 1817. *Eng. Fl.* vol. ii. p. 376. 764.

5. **R. Hiber'nica.** Sm. *Irish Rose.* Fruit nearly globular, smooth, as are the flower-stalks; prickles scattered, unequal, slightly curved; leaflets elliptical, simply serrate, hairy beneath on the ribs. ——*Stem* from three to six feet high, copiously branched, reddish-brown: leaflets 5 or 7, ovate or roundish, acute, the upper surface slightly glaucous: stipules smooth: flowers rather small, pale-pink. Flowers from June to November. Discovered by Mr. Templeton, in the counties of Down and Derry, Ireland. *Eng. Bot.* vol. xxxi. pl. 2196. *Eng. Fl.* vol. ii. p. 394. 765.

6. **R. Wilso'ni.** Borr. *Wilson's Rose.* Fruit ovato-urceolate, bristly; prickles crowded, very unequal; bristles few; leaflets simply serrate, hairy on both sides, their disk without glands; calyx simple.——*Flowers* in June. Found on a declivity of the Menai, near Bangor. *Eng. Bot. Suppl.* pl. 2723. 766.

7. **R. involu'ta.** Sm. *Prickly Unexpanded Rose.* Fruit globular, bristly; flower-stalks bristly; stem very prickly and bristly; leaflets elliptical, doubly and acutely serrate, their veins hairy beneath; petals involute.——*Stem* bushy, about three feet high, covered with innumerable crowded, slender, very unequal, nearly straight prickles, intermixed with glandular bristles; stipules fringed with glands: leaflets 5 or 7: petals pale-red. Flowers in June: found in various parts of the west of Scotland. *Eng. Bot.* vol. xxix. pl. 2068. *Eng. Fl.* vol. ii. p. 378. 767.

8. **R. Sabi'ni.** Woods. *Sabine's Rose.* Fruit globular, bristly; flower-stalks and pinnated calyx bristly; prickles scattered, straightish; leaflets doubly serrate, nearly smooth, with hairy ribs.——*Stem* from five to eight feet high, with brown branches, covered with nearly straight prickles and glandular bristles; stipules finely glandular at the edges: leaflets 5 or 7, broadly elliptical: petals large, rose-red: fruit scarlet. Flowers in July: grows in thickets in Scotland and the north of England. *Eng. Bot. Suppl.* pl. 2594. *Eng. Fl.* vol. ii. p. 381. 768.

** *Branches almost destitute of bristles; prickles nearly straight.*

9. **R. villo'sa.** L. *Soft-leaved Round-fruited Rose.* Fruit globular, bristly; calyx slightly pinnate; prickles nearly straight; leaflets rounded, doubly serrate, bluntish, downy all over.——*Stem* about six feet high, covered with scattered, slender, nearly straight prickles: stipules downy, thickly fringed with nearly sessile minute glands: leaflets 5 or 7, rounded: flowers pink: fruit scarlet. Flowers in July: grows in thickets in Scotland, Wales, and the north of England. *Eng. Bot.* vol. xxxv. pl. 2459: *R. mollis. Eng. Fl.* vol. ii. p. 382. 769

10. **R. tomento'sa.** Sm. *Downy-leaved Dog Rose.* Fruit broadly elliptical, bristly; calyx copiously pinnate; prickles slightly curved; leaflets ovate, acute, downy.——*Stem* from four to six feet high, branched, bristly, with round prickly branches: prickles slender, subulate: stipules linear, downy, densely fringed with glands: leaflets 5 or 7, with double serratures: petals pink, white in the lower

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half: fruit scarlet, sometimes smooth. Flowers in June and July: grows in hedges and thickets: common. *Eng. Bot.* vol. xiv. pl. 990. *Eng. Fl.* vol. ii. p. 384. 770.

*** *Branches destitute of bristles; prickles hooked, compressed; styles distinct.*

11. **R. rubigino'sa.** L. *Eglantine. Sweet-briar.* Fruit obovate, bristly towards the base; calyx pinnate; prickles hooked, compressed, with smaller straighter ones interspersed; leaflets elliptical, doubly serrate, hairy, covered beneath with rust-coloured glands.——*Stem* bushy, about four feet high: prickles scattered, hooked, conical, interspersed with others of a smaller size: stipules narrow-lanceolate, closely fringed with glands, as are the leaflets: petals bright-pink: fruit scarlet. Flowers in June and July: grows in dry bushy places: not common. *Eng. Bot.* vol. xiv. pl. 991. *Eng. Fl.* vol. ii. p. 386. 771.

12. **R. micran'tha.** Sm. *Small-flowered Sweet-briar.* Fruit elliptical, or ovate, somewhat bristly, contracted above; calyx pinnate, deciduous; prickles scattered, hooked, nearly uniform; leaflets ovate, doubly serrate, hairy, glandular beneath.——*Stem* from five to eight feet long, straggling, slender, arched: leaflets flat, pale-green above, more hairy beneath: flowers pale-pink, small: fruit soft, scarlet or coral-red. Flowers in June and July: grows in various parts of England and Scotland, as well as in the south of Ireland. *Eng. Bot.* vol. xxxv. pl. 2490. *Eng. Fl.* vol. ii. p. 388. 772.

13. **R. inodo'ra.** Fries. *Slightly-scented Sweet-briar.* Fruit elliptical, or globular, smooth; calyx copiously pinnate, deciduous; prickles hooked, uniform; leaflets ovate, doubly serrate, hairy, mostly glandular beneath.——*Stem* from six to eight feet long, stout, arched; leaflets flat, broadly ovate, dark-green above, paler and more hairy beneath, more or less glandular, as are the stipules: flowers pale-pink, rather small: fruit soft, deep-red. Flowers in June and July: found in various parts of England and Scotland. *Eng. Bot.* vol. xxxvi. pl. 2579: *Rosa Borreri. Eng. Fl.* vol. ii. p. 232. 773.

14. **R. se'pium.** Thuil. *Small-leaved Sweet-briar.* "Prickles numerous, the larger curved, the smaller subulate; leaflets small, doubly serrate, hairy, glandular beneath, acute at the base; calyx-segments and pinnæ elongated." Near Bridport, Warwickshire; Heyford, Oxfordshire. *Eng. Bot. Suppl.* 2653. 774.

15. **R. cæ'sia.** Sm. *Glaucous-leaved Rose.* Fruit elliptical, smooth; flower-stalks smooth, solitary; calyx distinctly pinnate; prickles hooked, uniform; leaflets elliptical, doubly serrate, glaucous, hairy beneath, without glands.——*Stem* bristly, four or five feet high, stipules oblong, acute, fringed with glands: leaflets 5 or 7: flowers pale-pink, sometimes white. Flowers in July: grows in some of the Highland valleys of Scotland: rare. *Eng. Bot.* vol. xxxiii. pl. 2367. *Eng. Fl.* vol. ii. p. 390. 775.

16. **R. cani'na.** L. *Common Dog Rose.* Fruit ovate, smooth, or somewhat bristly; calyx pinnate; prickles strongly hooked; leaflets simply or doubly serrate, pointed, smooth above, more or less downy beneath.——*Stem* from four to eight feet high: leaflets generally 7, destitute of glands: fruit scarlet. This species varies

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so much that it has been formed into several. The fruit is made into a conserve, and also furnishes food to small birds. Flowers in June and July: grows in hedges and thickets: common. *Eng. Bot.* vol. xiv. pl. 991. *Eng. Fl.* vol. ii. p. 396. 776.

17. **R. bractes'cens.** Woods. *Bracteated Downy Rose.* Fruit globose, smooth: calyx pinnate, with entire leaflets; prickles hooked; leaflets ovate, almost simply serrate, downy beneath; bracts overtopping the fruit.——*Stem* six or seven feet high, with spreading branches: leaflets hairy above, downy beneath: bracts remarkably large: fruit bright-red. *Eng. Fl.* vol. ii. p. 392. 777.

**** *Branches destitute of bristles; prickles hooked, compressed; styles united into a column.*

18. **R. sys'tyla.** Woods. *Close-styled Dog Rose.* Fruit oblong, smooth; calyx pinnate; prickles uniform, hooked; leaflets simply serrate; receptacle of the flower conical; styles hairless, united into a prominent furrowed column.——*A* slender shrub, from eight to twelve feet high: prickles with a large base: leaflets 5 or 7, smooth above, hairy on the ribs beneath: flowers pale-pink: fruit scarlet. Flowers in June and July: grows in thickets and hedges: not frequent. *Eng. Bot.* vol. xxvii. pl. 1895. *Eng. Fl.* vol. ii. p. 396. 778.

19. **R. arven'sis.** Huds. *White Field Rose.* Fruit globular or oblong, smooth: calyx pinnate; prickles hooked, scattered; leaflets simply serrate, glaucous beneath; receptacle of the flower convex; styles hairless, united.——*A* trailing bush four or five feet long: leaflets 5 or 7, ovate, very glaucous beneath: petals white, with a yellow base: fruit scarlet. Flowers in July: grows in hedges, thickets, and the borders of fields: not common. *Eng. Bot.* vol. iii. pl. 188. *Eng. Fl.* vol. ii. p. 397. 779.

8. RU'BUS. Linn. BRAMBLE. RASP.

Calyx inferior, with 5 oblong, spreading, permanent segments. Petals 5, round, as long as the calyx. Filaments capillary, shorter than the petals; anthers roundish, flattened, 2-lobed. Germens numerous, globular, crowded closely together into a round head; styles 1 to each germen, small, capillary, lateral; stigmas simple, permanent. Fruit compound, globular, concave, deciduous, of several round, juicy drupes, upon a conical, spongy receptacle. Seed solitary, oblong. Name of uncertain origin, said to be from the Celtic *reub*, to tear.—This genus has of late years been subjected to a most rigid inspection, the object of which has been to multiply species. If it be assumed as a principle that differences, permanent in particular circumstances, are to be as indicative of specific distinction, our Brambles amount to half a hundred at least, and the Negro, the Hottentot, the Australian, the Pawnee, the Hindoo, the Persian, and the Circassian, are species of a genus. It is well to search out all the external differences, but much better it would be to trace their gradations into the one normal form from which they have been derived. This has not yet been seriously attempted. In all probability, our Rubi will be reduced to *R. idæus, fruticosus, cæsius, saxatilis,* and *chamæmorus.* 279.

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* *Stem woody, round.*

1. **R. idæ'us.** L. *Raspberry Bush.* Leaves pinnate, with 5 or 3 leaflets, white, and downy beneath; stem erect, prickly; leaf-stalks channelled.——*Stems* biennial, nearly erect, three or four feet high, branched, with small straight, slender prickles: leaflets 5, the terminal one larger, their stalks downy and prickly: flowers small, white, pendulous, in simple clusters; fruit pale scarlet, fragrant, with an agreeable slightly acid taste: not improved by culture, excepting as to size. Flowers in May and June: grows in woods and thickets, in dry stony or gravelly places: common. *Eng. Bot.* vol. xxxiv. pl. 2442. *Eng. Fl.* vol. ii. p. 409. 780.

2. **R. cæ'sius.** L. *Blue Bramble. Dew-berry Bush.* Leaves ternate, hairy beneath, the lateral leaflets lobed externally; stems prostrate, glaucous, prickly and bristly; calyx embracing the fruit. ——*Stems* weak, with numerous deflexed, unequal, slender prickles: leaflets ovate, acute, doubly serrate, downy beneath: panicles corymbose: petals white or pale rose-coloured: fruit large-grained, black, with a bluish bloom, and of an agreeable acid taste. Flowers in June and July: grows in woods, thickets, hedges, and the borders of fields: common. *Eng. Bot.* vol. xii. pl. 826. *Eng. Fl.* vol. ii. p. 410. 781.

3. **R. corylifo'lius.** Sm. *Hazel-leaved Bramble.* Leaves pinnate, with 5 or 3 roundish leaflets, hairy beneath; stems spreading; prickles scattered, straight, deflexed; calyx reflexed; panicle minutely glandular.——*Stems* biennial, with scattered prickles: not confined to the angles: leaflets broadly ovate, somewhat cordate, pointed, sharply serrate, resembling the leaves of the hazel, soft and minutely hairy: flowers large, white: fruit large, large-grained, brownish-black, agreeably acid. Flowers in July: grows in hedges and thickets: common. *Eng. Bot.* vol. xii. pl. 827. *Eng. Fl.* vol. ii. p. 409. 782.

** *Stem woody, angular.*

4. **R. frutico'sus.** L. *Common Bramble.* Leaves pinnate, with 5 stalked leaflets, hoary beneath; prickles hooked, growing upon the angles of the stem; panicle compound; calyx reflexed.——*Stems* strongly angular, with numerous sharp, strongly hooked prickles growing on the angles: leaflets ovate, acute, sharply serrate, smoothish above, white and downy beneath: flowers in erect clusters: petals white, or tinged with pink: fruit of very numerous purplish-black grains, with a sweetish flavour, but somewhat nauseating when eaten in large quantities. Flowers in July and August: grows in woods, thickets, and hedges: common. *Eng. Bot.* vol. x. pl. 715. *Eng. Fl.* vol. ii. p. 400. 783.

5. **R. rhamnifo'lius.** Weihe and Nees. *Buckthorn-leaved Bramble.* Leaves digitate, of 5 roundish, pointed, shortly-stalked leaflets, paler beneath; prickles straight, deflexed; panicle twice compound; calyx spreading.——*Stems* angular, smooth, or with scattered hairs: prickles chiefly on the angles: leaflets ovate, or roundish, nearly smooth above, bright-green: fruit black. Flowers in July and August: grows in hedges and thickets: not uncommon. *Eng. Bot. Suppl.* pl. 2504. *Eng. Fl.* vol. ii. p. 402. 784.

6. **R. leucosta'chys.** Sm. *Long-clustered Bramble.* Leaves of 3

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or 5 roundish, shortly stalked, leathery leaflets, hoary beneath; prickles deflexed, slightly hooked; panicle cylindrical, minutely glandular; calyx reflexed.——*Stems* angular, smooth, dark-red: leaflets roundish or cordate, unequally serrate: panicle nearly simple, narrow: fruit black. Flowers in July and August: grows in hedges and thickets in Essex, Sussex, and Hampshire. *Eng. Bot. Suppl.* pl. 2631. *Eng. Fl.* vol. ii. p. 404. *R. carpinifolius*, W. N. 785.

7. **R. Koehle'ri.** W. N. *Glandular Bramble.* Leaves pinnate, with 5 or 3 leaflets, downy beneath; prickles unequal, deflexed, partly hooked; panicle and calyx very prickly and hairy, with numerous glandular bristles.——*Stems* angular, covered with numerous scattered prickles: leaflets smooth above, downy beneath: flower-stalks covered with numerous, partly hooked prickles, long hairs, and glandular bristles: petals white: fruit black, with numerous grains. Flowers in July and August: grows in woods, thickets, and hedges in various parts of England. *Eng. Bot. Suppl.* pl. 2605: *R. glandulosus. Eng. Fl.* vol. ii. p. 404. 786.

8. **R. suberec'tus.** And. *Red-fruited Bramble.* Leaves pinnate, with 5, 3, or 7 broadly ovate, pointed leaflets, minutely hairy beneath; prickles deflexed; clusters simple, hairy, prickly; calyx slightly hairy.——*Stems* nearly erect, with scattered, uniform, slightly hooked prickles: calyx densely hairy, destitute of prickles: petals white, crumpled: fruit deep-red, of few grains, agreeably acid. Flowers in July and August: grows in woods and thickets: not common. *Eng. Bot.* vol. xxxvi. pl. 2572. *Eng. Fl.* vol. ii. p. 407. 787.

*** *Stems herbaceous.*

9. **R. saxa'tilis.** L. *Stone Bramble.* Leaves ternate, slightly downy, stems ascending, with prostrate runners; panicle few-flowered.——*Stems* slender, about eight inches long: leaves 2 or 3, with ovate leaflets: petals minute, greenish-white: fruit of few large crimson grains. Perennial: flowers in June: grows in stony mountainous woods: common. *Eng. Bot.* vol. xxxii. pl. 2233. *Eng. Fl.* vol. ii. p. 411. 788.

10. **R. Chamæmo'rus.** L. *Mountain Bramble. Cloud-berry. Averan.* Leaves simple, plaited, lobed; stem 1-flowered, destitute of prickles. ——*Diœcious;* stem simple, downy, about six inches high: leaves cordate, 5-lobed, acutely serrate, stalked: petals white: fruit large, of few grains, dull orange-red, watery. Perennial: flowers in June: grows on peaty soil in mountainous situations in Scotland, Wales, and the north of England. *Eng. Bot.* vol. x. pl. 716. *Eng. Fl.* vol. ii. p. 413. 789.

9. FRAGA'RIA. Linn. STRAWBERRY.

Calyx inferior, with 10 segments, of which 5 alternate ones are external and smaller. Petals 5, roundish, spreading. Filaments subulate, erect, shorter than the corolla; anthers roundish, 2-celled. Germens superior, numerous, roundish, collected into a round head; styles 1 to each germen, lateral, incurved, short; stigmas obtuse. Berry formed of the enlarged receptacle of the seeds, pulpy, coloured, roundish. Achenia numerous,

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naked, upon the surface of the fruit.—Named from *fragrans*, sweet-smelling. 280.

1. **F. ves'ca.** L. *Wood Strawberry.* Calyx of the fruit reflexed; hairs of the leaf-stalks spreading, those of the partial flower-stalks close-pressed, silky.——*Root* somewhat woody, sending out long runners, which take root and propagate the plant: stems four or five inches high, erect, panicled at the top: flowers erect, with small white petals: fruit drooping, scarlet, somewhat acid and fragrant. This is the origin of the cultivated strawberry. Perennial: grows in woods and thickets, and on dry banks. *Eng. Bot.* vol. xxii. pl. 1524. *Eng. Fl.* vol. ii. p. 415. 790.

2. **F. ela'tior.** Ehrh. *Hautboy Strawberry.* Calyx of the fruit reflexed; hairs of all the flower-stalks and leaf-stalks spreading. Larger than *F. vesca*, and rather more hairy, with white flowers and dark-red fruit. Perennial: flowers in June: found in woods of some parts of England, but perhaps not indigenous. *Eng. Bot.* vol. xxxi. pl. 2197. *Eng. Fl.* vol. ii. p. 415. 791.

10. POTENTIL'LA. Linn. CINQUEFOIL.

Calyx inferior, with 10 segments, of which 5 alternate ones are external and narrower. Petals 5, roundish, spreading. Filaments subulate, erect, shorter than the corolla; anthers roundish, 2-celled. Germens superior, numerous, roundish, collected into a round head; styles 1 to each germen, filiform, lateral, ascending; stigmas bluntish, downy. Seeds numerous, naked, roundish, upon the surface of a small, dry, globular receptacle.—Name from *potens*, powerful. 281.

* *Leaves pinnate.*

1. **P. fructico'sa.** L. *Shrubby Cinquefoil.* Leaves pinnate; stem woody.——*Stem* three or four feet high: leaves of 5 acute, oblong leaflet, covered with close hairs, paler beneath: the upper leaves ternate: flowers terminal, large, golden-yellow. Perennial: flowers in June: grows in mountainous thickets in several places in the north of England; Rockforest, Clare, Ireland. *Eng. Bot.* vol. ii. pl. 88. *Eng. Fl.* vol. ii. p. 417. 792.

2. **P. anseri'na.** L. *Silver-weed. Goose-grass. Wild Tansy.* Leaves interruptedly pinnate, serrate, silky; stem creeping; stalks axillar, solitary, 1-flowered.——*Root* long, cylindrical: leaves interruptedly pinnate, covered beneath with shining white hairs: flowers large, bright-yellow. Perennial: flowers in June and July: grows by the sides of roads and ditches, and in meadows and pastures: common. The roots are eaten in the Hebrides, either raw or boiled; they are also a favourite food of the wood pigeon. *Eng. Bot.* vol. xii. pl. 861. *Eng. Fl.* vol. ii. p. 418. 793.

3. **P. rupes'tris.** L. *Rock Cinquefoil.* Leaves pinnate, with the terminal leaflet large; leaflets ovate, serrate, hairy; stem erect.——*Root* somewhat woody, tapering: stem a foot high, erect, hairy: lower leaves with 7 leaflets, upper with 3: flowers large, white, panicled. Perennial: flowers in June: grows on the side of a hill called Craig Breddin, in Montgomeryshire. *Eng. Bot.* vol. xxix. pl. 2058. *Eng. Fl.* vol. ii. p. 418. 794.

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** *Leaves fingered.*

4. **P. argen'tea.** L. *Silver* or *Hoary Cinquefoil.* Leaflets 5, cuneiform, jagged, downy beneath; stem ascending.——*Stems* nearly erect, from six to twelve inches high, cottony: leaves stalked, cottony beneath: flowers small, yellow, in a corymbose panicle, with cottony branches: achenia numerous, small, smooth. Perennial: flowers in June and July: grows in gravelly pastures, common in England, rare in Scotland and Ireland. *Eng. Bot.* vol. ii. pl. 89. *Eng. Fl.* vol. ii. p. 419. 795.

5. **P. alpes'tris.** Hal. fil. *Orange Alpine Cinquefoil.* Root-leaves of 5 cuneate, somewhat hairy leaflets, deeply cut in their upper half; upper stipules ovate; petals cordate; stems ascending.——*Root* somewhat woody: stems numerous, decumbent at the base, ascending, from four to eight inches long: root-leaves on long, hairy stalks: calyx hairy, petals inversely cordate, orange-yellow. Perennial: flowers in July: grows on mountains in Scotland, the north of England, and Wales: rare. *Eng. Bot.* vol. viii. pl. 561: *P. aurea. Eng. Fl.* vol. ii. p. 419. 796.

6. **P. ver'na.** L. *Spring Cinquefoil.* Root-leaves of 5 or 7 sagittate, partly serrate leaflets, bristly at the margins and on the ribs beneath; upper stipules dilated, hairy; stems procumbent.——*Roots* woody, creeping: stems spreading on the ground, hairy: root-leaves on longish hairy stalks: calyx very hairy: petals somewhat cordate, bright-yellow. Perennial: flowers in April and May: grows in elevated dry pastures: not common. *Eng. Bot.* vol. i. pl. 37. *Eng. Fl.* vol. ii. p. 421. 797.

7. **P. opa'ca.** L. *Saw-leaved Hairy Cinquefoil.* Root-leaves of 7 hairy, narrow, cuneate leaflets, deeply serrate throughout; stem-leaves ternate; petals cordate; stems slender, decumbent.——*Roots* woody: stems hairy: root-leaves on long hairy stalks: calyx hairy: petals about the length of the calyx, bright yellow, orange at the base. Perennial: flowers in June: found by Mr. G. Don, on the Clova mountains and in Perthshire; but has been gathered there by no living botanist. *Eng. Bot.* vol. xxxv. pl. 2449. *Eng. Fl.* vol. ii. p. 422. 798.

8. **P. rep'tans.** L. *Common Creeping Cinquefoil.* Leaflets 5, obovate, serrate; stem creeping; stalks axillar, 1-flowered.——*Root* tapering: stems long, prostrate, rooting: leaves opposite, on longish, hairy stalks: calyx hairy: petals bright yellow. Perennial: flowers from June to September: grows by road-sides, and in pastures: common. *Eng. Bot.* vol. xii. pl. 862. *Eng. Fl.* vol. ii. p. 424. 799.

*** *Leaves ternate.*

9. **P. tridenta'ta.** Soland. *Three-toothed Cinquefoil.* Leaves ternate, leaflets cuneate, with 3 terminal teeth, smooth above, hairy beneath; stem panicled, erect.——*Root* woody, creeping: stems three or four inches high, round, hairy: leaves all ternate: petals obovate, white. Perennial: flowers in June: found by Mr. G. Don on Werron Hill, Clova, Forfarshire. *Eng. Bot.* vol. xxxiv. pl. 2389. *Eng. Fl.* vol. ii. p. 425. 800.

10. **P. Fraga'riastrum.** Ehrh. *Barren Strawberry.* Leaves ternate; leaflets obovate, deeply serrate, silky on both sides; stems

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prostrate.——*Root* woody: the whole plant is hairy: and presents nearly all the characters of the strawberry, excepting in the fruit, which is small, dry, and hairy: petals obcordate, white. Perennial: flowers in March and April: grows in woods and on dry banks: common. *Eng. Bot.* vol. xxv. pl. 1785: *Fragaria sterilis. Eng. Fl.* vol. ii. p. 426. *Brit. Fl.* p. 252. 801.

11. TORMENTIL'LA. Linn. TORMENTIL.

Calyx inferior, of 1 leaf, the limb divided into 8 deep segments, 4 alternate ones of which are external and narrower. Petals 4, obcordate. Filaments subulate, erect, not half so long as the corolla; anthers roundish, erect, 2-celled. Germens superior, about 8, roundish, small, collected into a round head; styles filiform, erect, short, 1 to each germen, lateral; stigmas obtuse. Achenia ovate, smooth. Receptacle small, depressed, hairy. Many botanists unite this genus with the last.—Named from *tormina*, dysentery, from its efficacy in that complaint. 282.

1. T. officina'lis. L. *Common Tormentil.* Stem ascending, branched, leaves nearly sessile.——*Root* woody, large: stem slender, procumbent at the base: leaves ternate: leaflets oblong, deeply serrate, acute: calyx ribbed, hairy: petals bright yellow. The root of this plant is used very extensively in the Hebrides for tanning. From its astringent quality, it is also employed as a gargle in enlarged tonsils and other diseases of the throat. Perennial: flowers in June and July: grows in pastures, on heaths and in woods: common. *Eng. Bot.* vol. xii. pl. 863. *Eng. Fl.* vol. ii. p. 428. *Potentilla Tormentilla*, Sibth. 802.

T. rep'tans. L. *Trailing Tormentil.* Stem prostrate, scarcely branched; leaves stalked.——*Root* woody: stems about two feet long: leaves ternate or quinate: leaflets obovate, hairy, deeply serrate: calyx ribbed, hairy: petals bright yellow, larger than in the last species, of which some have taken this as a variety. Both species have occasionally 5 petals, and 10 segments to the calyx. Perennial: flowers in June and July: grows in woods and barren pastures: common. *Eng. Bot.* vol. xii. pl. 864. *Eng. Fl.* vol. ii. p. 428. 803.

12. GE'UM. Linn. AVENS.

Calyx inferior, the limb deeply divided into 10 acute segments, of which 5 alternate ones are much smaller. Petals 5, rounded, undivided or cleft, as long as the calyx. Filaments subulate, shorter than the corolla; anthers short, roundish, 2-celled. Germens superior, ovate, compressed, numerous, collected into a round head; styles long, lateral, with a joint above the middle, 1 to each germen; stigma simple. Achenia ovate, compressed, hairy. Receptacle cylindrical, dry, hairy.—Named from γεύω, to smell agreeably. 283.

1. G. urba'num. L. *Common Avens. Herb Bennet.* Leaves ternate, root-leaves somewhat lyrate; flowers erect; styles naked.——*Root* of large fibres: stems erect, two feet high, round, branched at the upper part: root-leaves on long stalks, interruptedly pinnate,

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with a large rounded terminal leaflet: stem-leaves ternate, stalked: uppermost leaves simple, 3-lobed: flowers terminal, solitary, stalked, with yellow petals: styles curved. The roots gathered in the spring, and put into ale, give it a pleasant flavour. Perennial: flowers from May to September: grows in woods, hedges, and waste places: common. *Eng. Bot.* vol. xx. pl. 1400. *Eng. Fl.* vol. ii. p. 430. 804.

2. G. riva'le. L. *Water Avens.* Root-leaves interruptedly pinnate, somewhat lyrate; flowers drooping; styles hairy.——*Root* somewhat woody, creeping: stem nearly a foot high, slightly panicled: root-leaves stalked, the terminal lobe very large, rounded, lobed and crenate: stem-leaves ternate or 3-lobed: flowers drooping: calyx purplish-brown: petals erect, cleft, yellowish-brown. The root is astringent and aromatic. Perennial: flowers in June and July: grows in moist meadows and woods, and by ditches and streams. *Eng. Bot.* vol. ii. pl. 106. *Eng. Fl.* vol. ii. p. 431. A variety intermediate between this and the preceding is not uncommon. *G. intermedium,* Ehrh. 805.

13. DRY'AS. Linn. MOUNTAIN AVENS.

Calyx inferior, flat, permanent, the limb deeply divided into 8 or 10 permanent segments. Petals 8, sometimes 10, roundish, undivided, longer than the calyx. Filaments capillary, much shorter than the corolla. Anthers small, roundish, 2-lobed. Germens numerous, small, oblong. Styles capillary, long, straight; stigma simple, smooth. Achenia oblong, hairy, each with a very long, hairy, lateral tail. Receptacle depressed, downy.—Named from δρυς, the oak, on account of a similarity in the leaves. 284.

1. D. octope'tala. L. *Mountain Avens.* Petals 8; leaves simple, downy beneath.——*Roots* woody: stems erect, somewhat woody: leaves stalked, evergreen, ovate, serrate, cottony beneath: flowers large, solitary, white: styles feathery. Perennial: flowers in June: grows on the higher mountains of Scotland, England, and Ireland: frequent. *Eng. Bot.* vol. vii. pl. 451. *Eng. Fl.* vol. ii. p. 432. 806.

14. CO'MARUM. Linn. MARSH CINQUEFOIL.

Calyx inferior, coloured, permanent, the limb divided into 10 deep, acute, spreading segments, of which 5 alternate ones are external and much smaller. Petals 5, less than the smaller segments of the corolla, lanceolate, acute. Filaments subulate, erect, nearly as long as the corolla; anthers roundish, 2-celled. Germens numerous, small, ovate, collected into a head; styles simple, short, straight, lateral; stigmas simple. Achenia numerous, naked, ovate, upon a large, dry, hairy, permanent receptacle.—Name κομαρος, used by Theophrastus. 285.

1. C. palus'tre. L. *Marsh Cinquefoil.*——*Root* creeping: stems ascending, round, panicled in the upper part, about a foot high: lower leaves stalked, of 5 or 7 oblong, acute, serrate leaflets, downy and whitish beneath: the upper ternate, nearly sessile: flowers on

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panicled, downy stalks: calyx large, dark-purple: petals very small, purplish. Perennial: flowers in June and July: grows in boggy places. *Eng. Bot.* vol. iii. pl. 172. *Eng. Fl.* vol. ii. p. 434. 807.

CLASS XIII. POLYANDRIA.

Plants bearing Flowers with numerous Stamens, arising from the receptacle.

Order I. MONOGYNIA. *One Pistil.*

* *Petals four.*

1. ACTÆ'A. *Sepals* 4, deciduous. *Petals* 4. *Berry* 1-celled, many-seeded, indehiscent.
2. CHELIDO'NIUM. *Sepals* 2, caducous. *Stigmas* 2. *Pod* linear, 1-celled, 2-valved.
3. GLAU'CIUM. *Sepals* caducous. *Stigmas* 2, sessile. *Capsule* elongated, 2-valved or 4-valved.
4. PAPA'VER. *Sepals* caducous. *Stigma* sessile. *Capsule* 1-celled, opening by pores under the stigma.
5. MECONOP'SIS. *Sepals* 2, caducous. *Style* short. *Capsule* opening by pores beneath the style.

** *Petals five.*

6. HELIAN'THEMUM. *Calyx* of 3 or 5 sepals, 2 of them smaller. *Capsule* of several valves. *Seeds* numerous.
7. TI'LIA. *Calyx* with 5 deep, equal segments, deciduous. *Capsule* 5-celled, without valves.

(*Delphinium Consolida.*)

*** *Petals numerous.*

8. NYMPHÆ'A. *Calyx* of 4 or 5 sepals, larger than the petals. *Petals* numerous, seated upon the germen. *Capsule* many-celled, many-seeded.
9. NU'PHAR. *Calyx* of 5 or 6 sepals, much larger than the petals. *Petals* numerous, seated upon the receptacle. *Capsule* many-celled, many-seeded.

Order II. PENTAGYNIA. *From Two to Six Pistils.*

10. PÆO'NIA. *Sepals* 5. *Petals* 5, or more. *Styles* none. *Follicles* from 2 to 5, many-seeded.
11. DELPHI'NIUM. *Calyx* of 5 petaloid sepals, the upper one spurred. *Petals* 4, 2 upper with appendages included in the spurred sepal.
12. ACONI'TUM. *Calyx* of 5 petaloid sepals, the upper one hooded; 2 upper petals recurved, stalked under the hood.
13. AQUILE'GIA. *Calyx* of 5 equal sepals. *Petals* 5, spurred below.
14. STRATIO'TES. *Calyx* 3-cleft. *Petals* 3. *Berry* inferior, angular, 6-celled, many-seeded.

(*Reseda Luteola. Helleborus viridis and fœtidus.*)

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Order III. POLYGYNIA. *Numerous Pistils.*

15. ANEMO'NE. *Calyx* of 5 or more sepals. *Carpels* numerous, indehiscent, tipped by the persistent styles.
16. CLE'MATIS. *Calyx* from 4 to 8 sepals. *Carpels* numerous, indehiscent, with a tail.
17. THALIC'TRUM. *Calyx* of 4 or 5 sepals. *Carpels* numerous, indehiscent, without appendage.
18. ADO'NIS. *Calyx* of 5 sepals. *Petals* from 5 to 10. *Carpels* numerous, indehiscent.
19. FICA'RIA. *Calyx* of 3 sepals. *Petals* about 10, with a nectariferous scale at the base. *Carpels* numerous.
20. RANUN'CULUS. *Calyx* of 5 sepals. *Petals* 5, with a nectariferous pore or scale at the base. *Carpels* numerous.
21. TROL'LIUS. *Calyx* of 5 or more petaloid deciduous sepals. *Petals* 5 or more, linear, flattened. *Follicles* numerous.
22. HELLE'BORUS. *Calyx* of 5 permanent, petaloid sepals. *Petals* tubular. *Follicles* few.
23. CAL'THA. *Calyx* of 5 or more petaloid, deciduous sepals. *Petals* none. *Follicles* from 5 to 10.

POLYANDRIA.—MONOGYNIA.

1. ACTÆ'A. Linn. BANE-BERRY.

Calyx inferior, of 4 circular, obtuse, caducous sepals. Petals 4, oblong, deciduous. Filaments about 30, capillary, broader towards the top; anthers roundish, 2-lobed. Germen ovate; style none; stigma thickish, obliquely depressed. Berry globular, smooth, with a lateral furrow, 1-celled, indehiscent. Seeds numerous, semi-globose, arranged in 2 rows.—Named from ακτη, the elder, the leaves resembling those of that tree. 286.

1. A. spica'ta. L. *Herb Christopher. Bane-berry.* Raceme elongated; petals as long as the stamens.——*Root* creeping: stem triangular, from one to two feet high, slightly branched, leafy, smooth: leaves twice or thrice ternate: leaflets ovate, acutely serrate, deep green: flowers in a close raceme, with white petals: berries purplish black, poisonous. The fetid odour of this plant is said to attract toads to it. Perennial: flowers in May and June: grows in woods and shady places, in Yorkshire and Westmoreland: rare. *Eng. Bot.* vol. xiii. pl. 918. *Eng. Fl.* vol. iii. p. 3. 808.

2. CHELIDO'NIUM. Linn. CELANDINE.

Calyx inferior, of 2 roundish caducous sepals. Petals 4, equal, roundish, flat, narrower at the base. Filaments about 30, flat, broader upwards, shorter than the corolla; anthers oblong, compressed, erect, 2-lobed. Germen cylindrical, as long as the stamens; style none; stigma small, obtuse, cleft.

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Pod linear, 1-celled, with 2 undulated deciduous valves. Seeds numerous, oval, dotted, arranged in 2 rows along a linear receptacle at each side of the pod.—Named from χελιδων, a swallow. 287.

1. C. ma'jus. L. *Common Celandine.*——*Root* tapering: stem about two feet high, branched, enlarged at the joints, round, smooth, leafy: leaves deeply pinnatifid, smooth: flowers in umbels, on long stalks: calyx tawny: petals yellow: seeds black and shining. The juice of every part of the plant is yellow and acrid. Perennial: flowers in May and June: grows in thickets and waste ground, generally near houses: frequent. *Eng. Bot.* vol. xxii. pl. 1581. *Eng. Fl.* vol. iii. p. 4. 809.

3. GLAU'CIUM. Tourn. HORNED-POPPY.

Calyx inferior, of 2 oblong, acute, caducous sepals. Petals 4, much larger than the calyx, roundish, crumpled, spreading, deciduous, 2 opposite ones rather smaller. Filaments numerous, capillary, shorter than the corolla; anthers roundish, 2-lobed. Germen superior, cylindrical, longer than the stamens; style none; stigma large, of 2- or 3-cleft, compressed downy lobes. Pod linear, very long, of 2 or 3 linear valves and as many cells. Seeds numerous, convex on the outer side, disposed irregularly, in 2 rows in each cell, along linear receptacles placed between the valves.—Named from the *glaucous* bloom which all the parts have. 288.

1. G. lu'teum. Scop. *Yellow Horned-poppy.* Stem smooth; stem-leaves embracing, waved; pod roughish, with minute tubercles. ——*Root* tapering: stem from one to two feet high: the whole plant glaucous: root-leaves numerous, stalked, pinnatifid, hairy: flowers large, with bright yellow petals: pod nearly a foot long, curved. Biennial: flowers in July and August: grows on the sea-coast: frequent. *Eng. Bot.* vol. i. pl. 8. *Chelidonium glaucium. Eng. Fl.* vol. iii. p. 6. 810.

2. G. phœni'ceum. Gærtn. *Scarlet Horned-poppy.* Stem hairy; stem-leaves pinnatifid, cut: pod rough, with erect bristles.——*Root* tapering: the whole plant glaucous: stem branched, erect: leaves all oblong, pinnatifid, hairy: calyx very hairy: petals scarlet, with a black spot at the base. Annual: flowers in June and July: grows on the sea-coast: very rare, if now to be found: Portland Island. *Eng. Bot.* vol. xx. pl. 1438. *Eng. Fl.* vol. iii. p. 7. 811.

3. G. viola'ceum. Juss. *Violet Horned-poppy.* Stem smooth; leaves doubly pinnatifid, linear, smooth; pod 3-valved and 3-celled. ——*Root* slender: stem erect, about a foot high, branched, smooth: lower leaves stalked, upper sessile: petals violet-blue, large: pod two or three inches long. Annual: flowers in May and June: grows in corn-fields, in Norfolk and Cambridgeshire: rare. *Eng. Bot.* pl. 201. *Eng. Fl.* vol. iii. p. 7. *Rœmeria hybrida,* De Cand. 812.

4. PAPA'VER. Linn. POPPY.

Calyx of 2 ovate, obtuse, equal, caducous sepals. Corolla of 4 circular, flat petals, 2 opposite ones of which are smaller.

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Filaments very numerous, capillary, much shorter than the corolla; anthers oblong, compressed, obtuse. Germen globose, oblong, or turbinate, large; style none; stigma shield-shaped, flat, radiated. Capsule leathery, large, 1-celled, partially divided by marginal partitions. Seeds reniform, very numerous, small, attached to the partitions, and escaping by pores beneath the margin of the stigma.—Name said to be derived from the Celtic *papa*, signifying pap. 289.

* *Capsules bristly.*

1. **P. hybridum.** L. *Round-rough-headed Poppy.* Capsule nearly globose, furrowed, bristly; calyx hairy; stem leafy, many-flowered; leaves doubly pinnatifid.——*Stem* twelve or eighteen inches high, covered with minute bristles: leaves with numerous narrow segments, each tipped with a minute bristle: flowers rather small, with scarlet petals, frequently purple at the base. Annual: flowers in July: grows in sandy fields in England and Ireland: rare. *Eng. Bot.* vol. i. pl. 43. *Eng. Fl.* vol. iii. p. 9. 813.

2. **P. Argemone.** L. *Long-rough-headed Poppy.* Capsule clavate, ribbed, bristly; calyx slightly hairy; stem leafy, many-flowered; leaves doubly pinnatifid.——*Stem* from one to two feet high, hairy: leaves with narrow segments: flowers small, with pale-scarlet petals, blackish at the base. Annual: flowers in June and July: grows in corn-fields: not uncommon. *Eng. Bot.* vol. ix. pl. 643. *Eng. Fl.* vol. iii. p. 10. 814.

** *Capsules smooth.*

3. **P. dubium.** L. *Long-smooth-headed Poppy.* Capsule oblong, angular, smooth; stem many-flowered, hairy; bristles of the flower-stalks close-pressed; leaves doubly pinnatifid.——*Stem* from one to two feet high, with spreading bristly hairs: petals light scarlet: capsule abruptly oblong. Annual: flowers in June and July: grows in corn-fields: common. *Eng. Bot.* vol. ix. pl. 644. *Eng. Fl.* vol. iii. p. 10. 815.

4. **P. Rhœas.** L. *Common-red Poppy.* Capsule nearly globose, smooth; stem many-flowered, bristly; bristles of the flower-stalks spreading; leaves pinnatifid, incised.——*Stems* from one to two feet high, with spreading bristles: petals large, undulated, rich scarlet, sometimes purple at the base. Annual: flowers in June and July: grows in corn-fields: common. *Eng. Bot.* vol. ix. pl. 645. *Eng. Fl.* vol. iii. p. 11. 816.

5. **P. somniferum.** L. *White Poppy.* Capsule nearly globose, smooth; stem many-flowered, smooth; leaves amplexicaul, sinuate, glaucous.——*Stem* three or four feet high, erect: leaves broad, waved, lobed, cordate at the base: flowers large, with bluish-white petals, having a broad purple spot at the base. Opium is the inspissated milky juice of this species, obtained by making incisions in the capsule. The seeds are destitute of narcotic quality, and may be eaten. All the species of this genus yield a similar milky juice. Annual: flowers in July: grows in fields and waste places: frequent. Naturalized, but has been found in a few places apparently wild. *Eng. Bot.* vol. xxx. pl. 2145. *Eng. Fl.* vol. iii. p. 11. 817.

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5. MECONOP'SIS. Viguier. WELSH-POPPY.

Calyx of 2 oblong, obtuse, equal sepals. Petals 4, roundish, delicate. Filaments very numerous, capillary, shorter than the corolla; anthers oblong. Germen oblong; style distinct; stigma of few rays. Capsule opening below the style by valves. —Named from μηκων, a poppy, and οψις, aspect. 290.

1. **M. Cam'brica.** Vig. *Yellow Welsh-poppy.* Capsule oblong, smooth; stem many-flowered, nearly smooth: leaves pinnatifid, incised, stalked.——*Stem* a foot high, generally with scattered erect hairs: flowers large, with lemon-coloured petals. Perennial: flowers in June: grows in moist rocky places, in Wales, and the north of England, as well as in a few places in Scotland and Ireland. *Eng. Bot.* vol. i. pl. 66. *Eng. Fl.* vol. iii. p. 12. 818.

6. HELIAN'THEMUM. Tourn. ROCK-ROSE.

Calyx inferior, of 5 unequal, permanent sepals, the 2 outermost smaller. Petals 5, much larger than the calyx, equal, spreading, roundish, caducous. Filaments numerous, capillary, shorter than the corolla; anthers small, oval. Germen superior, nearly globose; style simple; stigma knobbed. Capsule 3-valved, covered by the closed, permanent calyx. Seeds numerous, small, angular.—Name from ἡλιος, the sun, and ανθος, a flower. 291.

* *Stem woody, no stipules.*

1. **H. ca'num.** L. Dun. *Hoary Dwarf Rock-rose.* Stems decumbent; leaves opposite, stalked, ovate or oblong, hoary beneath.——*Root* woody: stems branched at the base, each branch ascending and terminating in 3 or 4 corymbose flowers: leaves ovate, acute, covered on both sides with close hairs: calyx hairy: petals obovate, bright-yellow. Perennial: flowers in May and June: grows on elevated rocks and in mountainous pastures, in Wales and the north of England: rare. *Eng. Bot.* vol. vi. pl. 396: *Cistus marifolius.* *Eng. Fl.* vol. iii. p. 23. 819.

** *Stem herbaceous, without stipules.*

2. **H. gutta'tum.** Miller. *Spotted Annual Rock-rose.* Stem erect, herbaceous; stipules and bracts none; leaves opposite, lanceolate, 3-ribbed.——*Stem* about six inches high, slightly branched, one or more simple, erect, terminal clusters: petals yellow, with a red spot at the base. Annual: flowers in June and July: very rare: Three-Castle Head, Cork. *Eng. Bot.* vol. viii. pl. 544. *Eng. Fl.* vol. iii. p. 24. 820.

*** *Stem woody, with stipules.*

3. **H. vulga're.** Gærtn. *Common Rock-rose.* Stems shrubby, procumbent, with fringed stipules; leaves oblong, white and downy beneath; calyx smooth with bristly ribs, its outer sepals lanceolate, fringed.——*Stems* numerous, round, downy, simple, terminating in a cluster of flowers: stipules lanceolate, green on both sides, petals pale-yellow. A shrub: flowers in July and August: grows in hilly

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pastures on gravelly soil. *Eng. Bot.* vol. xix. pl. 1321. *Eng. Fl.* vol. iii. p. 26. The *H. surrejanum, Eng. Bot.* pl. 2207, *Eng. Fl.* vol. iii. p. 25, is a monstrous variety of this plant, with lanceolate petals. 821.

4. **H. polifo'lium.** L. Pers. *White Mountain Rock-rose.* Stem shrubby, procumbent, with somewhat hairy stipules; leaves oblong, revolute, white beneath with starry hairs; calyx slightly hairy, its outer sepals fringed. —— *Stems* hoary, with close-pressed hairs: leaves convex and green above, with starry hairs, beneath white and densely downy, with similar hairs: stipules narrow, lanceolate, acute, hairy: calyx, with a few hairs on the ribs: petals white, with yellow claws. A shrub: flowers in June and July: grows on Brent Downs, Somersetshire, and near Torquay and Babbicombe, in Devonshire. *Eng. Bot.* pl. 1322. *Eng. Fl.* vol. iii. p. 27. 822.

7. TI'LIA. Linn. LIME-TREE. LINDEN.

Calyx inferior, deeply divided into 5 equal, coloured, deciduous segments. Petals 5, obovate, somewhat notched, in some species having a small scale on the inner surface at the base. Filaments numerous, filiform, as long as the petals; anthers of 2 round lobes. Germen roundish; style filiform, erect, nearly as long as the stamens; stigma with 5 obtuse angles. Capsule roundish, more or less angular, leathery, 5-celled. Seeds 1 or 2 in each cell, often abortive, excepting 1.—Name doubtful. 292.

1. **T. Europæ'a.** L. *Common Lime-tree. Linden-tree.* Flowers without nectaries; leaves twice the length of their petioles, cordate at the base, serrate, pointed, smooth, except a woolly tuft at the origin of each vein beneath; cymes many-flowered; capsule leathery, hairy. —— *A large* and handsome tree, with smooth, spreading branches: leaves unequal and entire at the base: stipules oval, smooth, in pairs at the base of each foot-stalk: flower-stalks axillar, cymose, each bearing an oblong, pale, smooth bract, united for half its length with the stalk: flowers greenish, scented: germen hairy. Linnæus is said to have derived his family name from a large tree of this species, the Swedish name of which is *Lin.* Probably naturalized: flowers in July. *Eng. Bot.* vol. ix. pl. 610. *Eng. Fl.* vol. iii. p. 17. 823.

2. **T. grandifo'lia.** Ehrh. *Broad-Leaved Lime-tree.* Flowers without nectaries; leaves roundish, cordate, pointed, serrate, downy, especially beneath, with hairy tufts at the origin of the veins; capsule turbinate, with prominent angles, downy.——*Flowers* in August: found in woods and hedges, but, like the other two species, probably not indigenous. *Eng. Fl.* vol. iii. p. 18. 824.

3. **T. parvifo'lia.** Ehrh. *Small-leaved Lime-tree.* Flowers without nectaries; leaves scarcely longer than their petioles, roundish, cordate, serrate, pointed, glaucous beneath, with hairy tufts at the origin of the veins, and scattered hairy blotches; capsule roundish, with slender ribs, thin, brittle, nearly smooth.——*A handsome* tree, distinguished from the former by its much smaller leaves and flowers: germen densely woolly: flowers in August: grows in woods in Essex, Sussex, &c.: frequent. *Eng. Bot.* vol. xxiv. pl. 1705. *Eng. Fl.* vol. iii. p. 21. 825.

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8. NYMPHÆ'A. Linn. WHITE WATER-LILY.

Calyx inferior, of 4 or 5 large, oblong, tough, permanent leaves, coloured on their upper surface. Petals numerous, oblong, placed in several rows upon the base of the germen. Filaments very numerous, flat, placed on the germen, the lower gradually more dilated; anthers linear, 2-celled. Germen sessile, globose; style none; stigma circular, of numerous rays, which are obtusely pointed and separate at the end. Capsule hard, globose, many-celled. Seeds numerous, roundish.—Named from its inhabiting waters, as the *nymphs* were fabled to do. 293.

1. **N. al'ba.** L. *White Water-lily.* Leaves cordate, entire; petals oblong; rays of the stigma from 12 to 24, recurved.——*Root* tuberous, horizontal: leaves floating, nearly circular, smooth: stalks of the leaves and flowers cylindrical: flowers about four inches in diameter, floating when expanded: sepals white above: petals white. This, in respect to beauty, is the queen of British flowers. Its large tuberous roots are collected by the Hebridians, who from a decoction of them, mixed with copperas, obtain a black colour for dyeing wool and yarn. Perennial: flowers in July: grows in pools, lakes, and slow rivers: frequent. *Eng. Bot.* vol. iii. pl. 160. *Eng. Fl.* vol. iii. p. 14. 826.

9. NU'PHAR. Sm. YELLOW WATER-LILY.

Calyx inferior, of 5 or 6 large, oblong, tough, permanent sepals; petals numerous, oblong, much smaller than the sepals, placed upon the receptacle, furrowed and nectariferous at the back. Filaments very numerous, linear, recurved; anthers linear, 2-celled. Germen nearly sessile, ovate; style none; stigma circular, convex, entire or notched, with many central, radiating clefts. Capsule hard, ovate, pointed, many-celled. Seeds numerous, ovate.—Name νουφαρ, used by Dioscorides. 294.

1. **N. lu'tea.** L. Sm. *Yellow Water-lily.* Sepals 5; margin of the stigma faintly crenate or entire; leaf-stalks 2-edged; lobes of the leaves meeting.——*Leaves* broadly cordate, roundish at the end, basal lobes meeting and often overlapping each other: flower-stalks nearly cylindrical; flowers about two inches in diameter, of a golden-yellow colour: rays of the stigma from 10 to 16 or 20. Its flowers have a strong smell resembling that of brandy, or rather some kinds of wine. Perennial: flowers in July: grows in rivers and pools: common in England; rare in the north of Scotland, where the *Nymphæa alba* is peculiarly abundant. *Eng. Bot.* vol. ii. pl. 159. *Eng. Fl.* vol. iii. p. 15. 827.

2. **N. pu'mila.** *Least Yellow Water-lily.* Sepals 5; margin of the stigma toothed; leaf-stalks 2-edged; lobes of the leaves rather distant.——*Leaves* cordate, somewhat angular, the basal lobes not meeting: flowers hardly more than an inch in diameter, pale-yellow, tinged with green: rays of the stigma 8, 10, or 12. It does not differ more from *N. lutea* than very small specimens of *Nymphæa*

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alba differ from those of a larger size, and, when the disjunctive mania ceases, will be united with *N. lutea*. Perennial: flowers in July: grows in lakes: foot of Cruachan in Argyleshire: Loch Baladren at Aviemore; Loch of Monteith; Loch Lubnaig; near Callander, &c. *Eng. Bot.* vol. xxxii. pl. 2292: *N. minima*. *Eng. Fl.* vol. iii. p. 16. 828.

PENTAGYNIA.

10. PÆO'NIA. Linn. PÆONY.

Calyx inferior, of 5 roundish, reflexed, unequal, permanent leaves. Petals 5, roundish, spreading, larger than the calyx. Filaments very numerous, much shorter than the corolla; anthers oblong, 4-cornered, 4-celled. Germens ovate, sessile, downy; styles none; stigmas oblong, curved, compressed, obtuse. Follicles oblong, leathery. Seeds numerous, oval, arranged along the edges of the follicle.—Named in honour of the physician *Pæon*, or of Apollo. 295.

1. **P. coralli'na.** Retz. *Entire-leaved Pæony.* Leaves biternate; leaflets ovate, undivided, smooth; follicles downy, recurved.——*Root* capitate: stems simple, round, smooth, about two feet high: flowers about four inches broad, with crimson petals. Perennial: flowers in May and June: grows on the Steep Holmes Island, in the Severn, but is not truly wild. *Eng. Bot.* vol. xxii. pl. 1513. *Eng. Fl.* vol. iii. p. 29. 829.

11. DELPHI'NIUM. Linn. LARKSPUR.

Calyx of 5 inferior, unequal, spreading, deciduous sepals; the upper one extended at the base into a long tubular spur; the rest oblong, unguiculate. Petals 4, 2 upper with elongated appendages, included in the spurred sepals. Filaments numerous, dilated at the base, much shorter than the corolla; anthers roundish, small, erect. Germens superior, from 1 to 5; styles terminal, shorter than the stamens; stigmas simple, reflexed. Follicles oblong, 1-valved. Seeds numerous, angular, rough, arranged along the edges of the follicle.—Name from δελφιν, a dolphin. 296.

1. **D. Conso'lida.** L. *Field Larkspur.* Stem erect, branched; racemes few-flowered; spur longer than the calyx; petals combined; follicle 1, glabrous.——*Stem* nearly two feet high, erect, leafy, branched: leaves sessile, divided to the base into 3 or 5 parts, each cut into linear segments, often forked at the end: racemes terminal, loose: sepals deep-blue in front, pale behind. Annual: flowers in June and July: grows in corn-fields in England: rare: Cambridge, Suffolk, Kent. *Eng. Bot.* vol. xxvi. pl. 1839. *Eng. Fl.* vol. iii. p. 30. 830.

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12. ACONI'TUM. Linn. MONK'S-HOOD.

Calyx of 5 inferior, unequal sepals, 4 of them in pairs, opposite; the upper one hooded, or tubular, inverted, the convex part being uppermost, the deflexed point recurved; 2 lateral ones roundish, opposite, converging; 2 lowermost oblong, deflexed. Petals 2, within the hollow of the upper sepal, on long stalks, tubular, oblique at the orifice. Filaments numerous, broad at the base, short; anthers roundish, erect. Germens superior, from 3 to 5, oblong; styles terminal, spreading; stigmas simple, acute. Follicles straight, oblong, 1-valved. Seeds numerous, angular, arranged at the edges of the follicles. —Name doubtful. 297.

1. A. Napel'lus. L. *Common Wolf's-bane*, or *Monk's-hood*. Upper sepal arched at the back; lateral ones hairy at the inner side; germens 3, smooth; leaves deeply 5-cleft, cut, with linear segments, furrowed above.——*Stem* erect, leafy, simple, terminating in a long raceme of dark-blue flowers. Perennial: flowers in June and July: found in several places in England, but is not truly native. *Eng. Fl.* vol. iii. p. 31. 831.

13. AQUILE'GIA. Linn. COLUMBINE.

Calyx of 5 inferior, ovate, equal, coloured, spreading sepals. Petals 5, equal, alternate with the petals, tubular, dilated upwards, oblique at the mouth, the outer margin ascending, the inner attached to the receptacle; their lower portion extended into a long tapering spur, obtuse at the end. Filaments from 30 to 40, the outer shorter, the inner abortive, dilated, clasping the germens; anthers cordate, erect. Germens 5, superior, oblong, each tapering into a subulate, erect style; stigmas simple. Follicles 5, sub-cylindrical, pointed, straight, 1-valved. Seeds numerous, ovate, smooth, arranged along the edges of the follicle.—Name from *aquila*, an eagle, the claws of which are likened to the petals. 298.

1. A. vulga'ris. L. *Common Columbine*. Petals about the length of the sepals, their spur incurved; leaves and stem smooth; follicles hairy.——*Root* tuberous: stem erect, two or three feet high, round, generally branched, and bearing several flowers: root-leaves twice ternate, on long stalks: stem-leaves ternate, nearly sessile: flowers pendulous, purple. Perennial: flowers in June: grows in meadows, pastures, and thickets: frequent, but seldom, if at all, wild. *Eng. Bot.* vol. v. pl. 297. *Eng. Fl.* vol. iii. p. 33. 832.

14. STRATIO'TES. Linn. WATER-SOLDIER.

Calyx superior, of 1 leaf, tubular, erect, with 3 deep marginal segments. Petals 3, twice as long as the calyx, obovate. Filaments about 20, filiform, shorter than the calyx; anthers subulate, erect. Germen elliptical, obtuse, 3-cornered; styles 6, deeply cleft, as long as the stamens; stigmas simple. Berry ovate, 6-cornered, 6-celled, tapering at both ends. Seeds numerous, obovate.—Named from στρατος, an army. 299.

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1. S. aloi'des. L. *Water-soldier.* Leaves gladiate, channelled, with a prominent rib, and sharp marginal prickles.——*Leaves* half a foot long or more: scape from four to six inches long, compressed, 2-edged: flowers white, large, sometimes diœcious. Perennial: flowers in July: grows in ditches and pools: Isle of Ely, Lincolnshire, Norfolk, Cheshire, and Yorkshire. Introduced into the lochs of Duddingston, Forfar, and Cluny. *Eng. Bot.* vol. vi. pl. 379. *Eng. Fl.* vol. iii. p. 34. 833.

POLYGYNIA.

15. ANEMO'NE. Linn. ANEMONE.

Calyx of from 5 to 15 oblong, inferior, regular, petaloid sepals in one or more rows. Filaments numerous, capillary, much shorter than the corolla; anthers 2-lobed. Germens superior, numerous, collected into a roundish head; styles tapering, short; stigmas simple, bluntish. Carpels indehiscent, pointed, tipped with the permanent styles.—Name from ανεμος, the wind. 300.

1. A. Pulsatil'la. L. *Pasque-flower.* Leaves doubly pinnate; sepals 6, erect; carpels with feathery tails.——*Stems* four or five inches high: with an involucre of many deep, linear segments, all united at the base, and a single flower, with dull violet petals, externally silky. Perennial: flowers in April and May: grows in elevated open pastures in England. *Eng. Bot.* vol. i. pl. 51. *Eng. Fl.* vol. iii. p. 36. 834

2. A. nemoro'sa. L. *Wood Anemone.* Leaves ternate or quinate; sepals 6, spreading; seeds pointed, without tails.——*Stem* about a foot high, with an involucre of 3 ternate or quinate leaves, and a single flower, with white petals, externally purplish: carpels beaked, keeled, downy. Perennial: flowers in April and May: grows in woods and thickets, sometimes on open heaths: common. *Eng. Bot.* vol. v. pl. 355. *Eng. Fl.* vol. iii. p. 36. 825.

3. A. Appeni'na. L. *Blue Mountain Anemone.* Leaves thrice ternate; sepals numerous, lanceolate; carpels pointed, without tails. ——*Stem* about a foot high, above the involucre silky, with a single flower of a bright-blue colour. Perennial: flowers in April: grows in Wimbleton woods and several other places in the south of England: rare, and perhaps introduced. *Eng. Bot.* vol. xv. pl. 1062. *Eng. Fl.* vol. iii. p. 37. 836.

4. A. ranunculoi'des. L. *Yellow Wood Anemone.* Leaves ternate or quinate; sepals 5, lanceolate; carpels pointed, without tails.—— *Stem* about a foot high, with 1, sometimes 2 flowers of a bright yellow colour. Perennial: flowers in April: found by Hudson in a wood at King's Langley, Herts, and at Wrotham, Kent. *Eng. Bot.* vol. xxi. pl. 1484. *Eng. Fl.* vol. iii. p. 38. 837.

16. CLE'MATIS. Linn. CLEMATIS.

Calyx of from 4 to 8 interior, regular, oblong sepals. Filaments numerous, enlarged upwards; anthers oblong, 2-lobed.

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Germens superior, sessile, ovate, collected into a round head; styles terminal, much longer than the germens; stigmas simple. Seeds numerous, ovate, compressed, tipped with the permanent styles, converted into feathery tails.—Name from κλημα, a vine shoot. 301.

1. C. vital'ba. L. *Common Traveller's Joy.* Leaves pinnate, with cordate, incised leaflets; leaf-stalks twining; panicles forked, not longer than the leaves.——*Stems* woody, angular, climbing: panicles axillar and terminal, many-flowered: flowers white, scented: sepals 4, externally downy: carpels with a long, feathery, and silky tail. A shrub: flowers in July: grows in hedges: common in England; rare in Scotland. *Eng. Bot.* vol. ix. pl. 612. *Eng. Fl.* vol. iii. p. 39. 838.

17. THALICTRUM. Linn. MEADOW-RUE.

Calyx of 4 or 5 inferior, roundish, obtuse, deciduous sepals. Filaments numerous, capillary, somewhat enlarged at the upper part; anthers terminal, oblong, drooping. Germens several, superior, ovate, striated; styles none; stigmas ovate, downy. Carpels ovate, furrowed or winged, without terminal appendage.—Name from θαλλω, to be green. 302.

1. Th. alpi'num. L. *Alpine Meadow-rue.* Stem unbranched, almost naked, with a simple terminal raceme.——*Stem* from three to six inches high: leaves chiefly radical, twice ternate, with cuneiform leaflets: flowers drooping: sepals 4, whitish, acute. Perennial: flowers in June: grows on high mountains in Scotland, Wales, and the north of England: frequent. *Eng. Bot.* vol. iv. pl. 262. *Eng. Fl.* vol. iii. p. 40. 839.

2. Th. mi'nus. L. *Less Meadow-rue.* Stem zigzag, striated; leaves thrice pinnate, with 3-cleft leaflets, glaucous on both sides; flowers panicled, pendulous.——*Root* creeping: stem from six to eighteen inches high, somewhat angular: leaflets generally cuneiform: panicles compound, spreading, with a few ternate leaves at the base: bracts small, lanceolate: sepals 4, pale purple, with whitish edges. Perennial: flowers in June and July: grows in dry pastures, particularly abundant in all the sandy maritime pastures of the Hebrides. *Eng. Bot.* vol. i. pl. 11. *Eng. Fl.* vol. iii. p. 41. A large variety is the *Th. majus, Greater Meadow-rue,* of many botanists; and there are several others. *Eng. Bot.* vol. ix. pl. 611. *Eng. Fl.* vol. iii. p. 172. 840.

3. Th. fla'vum. L. *Common Meadow-rue.* Stem erect, grooved; leaves twice pinnate, with cuneiform, 3-cleft leaflets; panicle compound, close, corymbose; flowers erect.——*Root* fibrous: stem three or four feet high, branched, hollow, deeply furrowed and angular: panicle dense, of very numerous erect flowers: sepals 4, cream-coloured. Perennial: flowers in June and July: grows in wet meadows, and near rivers and ditches: rare in Scotland. *Eng. Bot.* vol. vi. pl. 367. *Eng. Fl.* vol. iii. p. 42. 841.

18. ADO'NIS. Linn. ADONIS.

Calyx of 5 converging, obtuse, deciduous sepals. Petals from 5 to 15, oblong, obtuse, shining, without nectaries on the

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claws. Filaments numerous, subulate, very short; anthers oblong, 2-lobed, incurved. Germens very numerous, incurved, collected into a round head; styles none; stigmas acute, spreading. Carpels numerous, angular, acute, without an appendage. Receptacle cylindrical.—Named after *Adonis*. 303.

1. **A. autumna'lis.** L. *Adonis flower. Pheasant's-eye.* Sepals about eight, obcordate; fruit ovate; stem branched.——*Root* tapering: stem erect, branched, striated, leafy: leaves alternate, sessile, thrice pinnatifid, with linear, acute segments: petals deep shining crimson. Annual: flowers from May to October: grows in cornfields: rare. *Eng. Bot.* vol. v. pl. 308. *Eng. Fl.* vol. iii. p. 43. 842.

19. FICA'RIA. De C. PILEWORT.

Calyx inferior, of 3 ovate, deciduous leaves. Petals about 10, oblong, polished. Nectary a pore at the base of each petal, covered by a scale. Filaments numerous, slender, much shorter than the petals; anthers elliptical, erect, 2-celled. Germens superior, numerous, collected into a round head; styles none; stigmas small. Carpels tipped with a point.—Named from *ficus*, a fig, on account of the shape of the tubers. 304.

1. **F. ver'na.** De C. *Pilewort. Lesser Celandine.*——*Root* of numerous oblong tubers, accompanied with fibres: stems from three to ten inches high, slightly branched, leafy: leaves alternate, stalked, cordate, angular, smooth: petioles longer than the leaves, 2-celled, dilated, and sheathing at the base, where they generally contain 1 or 2 knobs similar to those of the root: flowers terminal, solitary: petals golden-yellow, shining. Perennial: flowers in March, April, and May: grows in shady places, and in meadows: common. *Eng. Bot.* vol. ix. pl. 584: *Ranunculus Ficaria. Eng. Fl.* vol. iii. p. 47. 843.

20. RANUN'CULUS. Linn. CROWFOOT.

Calyx inferior, of 5 ovate, deciduous leaves. Petals 5, roundish, shining. Nectary a pore at the base of each petal, generally covered by a scale. Filaments numerous, much shorter than the petals; anthers linear, or cordate, erect, 2-celled. Germens numerous, collected into a round head; styles none; stigmas small. Carpels numerous, ovate, tipped with a point or hook.—Named from *rana*, a frog, some of the species being aquatic. 305.

* *Leaves simple.*

1. **R. Lin'gua.** L. *Greater Spearwort.* Leaves lanceolate, pointed, nearly sessile, somewhat serrate; stem erect, many-flowered; root fibrous; achenia smooth.——*Stem* about three feet high, with close-pressed hairs: calyx hairy: petals bright-yellow: nectary covered by a small scale. Perennial: flowers in July and August: grows in ditches and at the edges of lakes and pools: not common. *Eng. Bot.* vol. ii. pl. 100. *Eng. Fl.* vol. iii. p. 46. 844.

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2. R. Flam'mula. L. *Less Spearwort.* Leaves lanceolate, or oblong, with a thickened tip, nearly entire, stalked; stem decumbent at the base; root fibrous; achenia smooth.——*Stem* from six to eighteen inches long, sometimes entirely decumbent, slightly branched, leafy: leaves alternate, the lower ones sometimes broad: petals gold-yellow: nectaries minute. This plant is extremely acrid, and is used in the Hebrides for raising blisters. Dr. Withering recommends the distilled water as an instantaneous emetic in cases of poisoning. In alpine situations it becomes creeping: *R. reptans.* Lightf. Perennial: flowers from June to September: grows in watery places: common. *Eng. Bot.* vol. vi. pl. 387. *Eng. Fl.* vol. iii. p. 45. 845.

** *Leaves divided.*

3. R. auri'comus. L. *Goldilocks. Wood Crowfoot.* Root-leaves reniform, crenate, 3-cleft; stem-leaves digitate, with linear segments; stem many-flowered; calyx coloured.——*Root* fibrous: stem about a foot high, erect, branched: leaves more or less downy: flowers terminal, solitary, gold-yellow: calyx hairy, pale-yellow: nectary a naked pore. Perennial: flowers in April and May: grows in woods and bushy places: frequent. *Eng. Bot.* vol. ix. pl. 624. *Eng. Fl.* vol. iii. p. 47. 846.

4. R. scelera'tus. L. *Celery-leaved Crowfoot.* Stem erect, hollow, much branched; leaves smooth, lower ones palmate, upper digitate; fruit oblong; seeds very numerous, minute.——*Stout,* erect, much branched: root fibrous: stem from six inches to two feet high, smooth, round, hollow, leafy: lower leaves stalked, upper sessile, uppermost undivided: flowers small, pale-yellow, numerous: calyx hairy, reflexed: nectary somewhat tubular. This species is extremely acrid, and blisters the skin. It is said to be used by strolling beggars to produce artificial sores. Annual: flowers from June to September: grows in watery places: common. *Eng. Bot.* vol. x. pl. 681. *Eng. Fl.* vol. iii. p. 48. 847.

5. R. bulbo'sus. L. *Bulbous Crowfoot. Butter-cups.* Calyx reflexed; flower-stalks furrowed; stem erect, many-flowered, bulbiform at the base; leaves compound: seeds smooth.——*Root* surmounted by a solid round bulb: stem about a foot high, hairy: lower leaves compound, their leaflets cut or lobed: flowers terminal, solitary: calyx-leaves ovate, hairy: petals gold-yellow: nectary covered by a scale. Perennial: flowers in May: grows in pastures and meadows: common. *Eng. Bot.* vol. viii. pl. 515. *Eng. Fl.* vol. iii. p. 49. 848.

6. R. hirsu'tus. Curt. *Pale Hairy Crowfoot.* Calyx reflexed, pointed; stem erect, many-flowered, hairy; leaves ternate; root fibrous; carpels tuberculated.——*Stem* from three inches to a foot high: flower-stalks furrowed, hairy: calyx hairy, reflexed: petals gold-yellow: nectary covered by a scale. Annual: flowers from June to October: grows in moist meadows and waste ground: not common. *Eng. Bot.* vol. xxi. pl. 1504. *Eng. Fl.* vol. iii. p. 50. 849.

7. R. re'pens. L. *Creeping Crowfoot.* Calyx spreading; flower-stalks furrowed; runners creeping; leaves compound, erect, the uppermost entire.——*Stem* erect or ascending, about a foot high, hairy: leaves twice ternate: flowers gold-yellow: nectary covered

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by a notched scale. Perennial: flowers in the summer months: grows in rich soil, by walls, and in shady places: common. *Eng. Bot.* vol. viii. pl. 516. *Eng. Fl.* vol. iii. p. 51. 850.

8. **R. a'cris.** L. *Upright Meadow Crowfoot.* Calyx spreading; flower-stalks round; leaves tripartite, their segments 3-cleft and cut, those of the uppermost linear and entire; stem erect, covered with close-pressed hairs.——*Stem* two feet high, many-flowered; calyx hairy: petals bright yellow: nectary covered by a scale. Perennial: flowers in June and July: grows in meadows and pastures: acrid and capable of blistering, generally left untouched by cattle: common. *Eng. Bot.* vol. x. pl. 652. *Eng. Fl.* vol. iii. p. 51. 851.

9. **R. arven'sis.** L. *Corn Crowfoot.* Calyx spreading; stem erect, much branched, many-flowered; leaves once or twice deeply 3-cleft, with narrow lanceolate segments; carpels spinous.——*Leaves* alternate: flowers small, with a hairy calyx, and pale-yellow petals: seed-vessels large and prickly. This plant is exceedingly acrid, and is said to be very dangerous to cattle. Annual: flowers in June: grows in corn-fields: not common. *Eng. Bot.* vol. ii. pl. 135. *Eng. Fl.* vol. iii. p. 52. 852.

10. **R. parvifio'rus.** L. *Small-flowered Crowfoot.* Leaves simple, hairy, sharply cut, the upper ones 3-lobed; stem prostrate; carpels with hooked prickles.——*Leaves* roundish, acutely notched, the uppermost with 3 deep lanceolate segments: flowers small, yellow. Annual: flowers in May and June: grows in fields and by hedges: rare. South of England, near Dublin. *Eng. Bot.* vol. ii. pl. 120. *Eng. Fl.* vol. ii. p. 53. 853.

11. **R. alpes'tris.** L. *Alpine White Crowfoot.* Leaves simple, smooth; root-leaves somewhat cordate, with 3 deep-lobed segments, those of the stem lanceolate, entire; flower generally solitary; calyx smooth.——*Stem* three or four inches high, erect, generally simple and 1-flowered: petals white: calyx reflexed, pale. This species also is said to be extremely acrid. Perennial: flowers in May: grows by the sides of alpine rills, on the Clova mountains, where it was discovered by Mr. G. Don. *Eng. Bot.* vol. xxxiv. pl. 2390. *Eng. Fl.* vol. iii. p. 49. 854.

12. **R. aqua'tilis.** L. *Water Crowfoot.* Stem floating; immersed leaves in fine capillary segments spreading in all directions; floating-leaves 3- or 5-lobed, bluntly crenate.——*Stems* branched, submersed: flowers on long stalks, rising a little out of the water: petals white, yellow at the base: the floating leaves sometimes wanting. Perennial: flowers in May and June: grows in ditches, ponds, and rivers: common. *Eng. Bot.* vol. ii. pl. 101. *Eng. Fl.* vol. iii. p. 54. 855.

13. **R. Lenormandi.** F. W. Schultz. *Mud Crowfoot.* Stem creeping; leaves smooth, roundish, cordate, subpeltate, with three or five rounded lobes, each lobe with two or three notches; carpels obovate, with the style terminal.——*Perennial:* flowers through the summer. Pools and ditches in various parts of England. *R. cœnosus.* Gussone, Hooker, and Arnott. *Brit. Fl.* 8. 856.

14. **R. circi'natus.** Sibth. *Rigid-leaved Water Crowfoot.* Stem submersed, ascending; leaves all submersed, flat, divided into numerous capillary, forked, rigid segments, spreading in one plane;

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receptacle of the fruit limpid.——*Probably* a variety of *R. aquatilis.* In ponds and ditches: flowers in June and July. *Eng. Bot. Suppl.* 2869. 857.

15. **R. flui'tans.** Lam. *River Crowfoot.* Stem floating; leaves all submersed, repeatedly forked, with elongated, parallel, setaceous segments; petals obovate, much larger than the sepals; receptacle of the fruit limpid.——*Perennial:* flowers in June and July: grows in rivers, brooks, lakes, and canals. *Eng. Bot. Suppl.* 2870. 858.

16. **R. hede'raceus.** L. *Ivy-leaved Crowfoot.* Stem creeping; leaves smooth, roundish, or reniform, with three or five rounded entire lobes; petals small; stamens from five to ten; carpels ovate, with the style lateral.——*Stem* creeping or floating: leaves stalked, dark-green. Perennial: flowers from May to August: grows in ditches and muddy places: common. *Eng. Bot.* vol. xxviii. pl. 2003. *Eng. Fl.* vol. iii. p. 54. 859.

21. TROL'LIUS. Linn. GLOBE-FLOWER.

Calyx inferior, of from 5 to 15 roundish, deciduous sepals. Petals numerous, linear, flattened, incurved, with a single lip, somewhat tubular at the base. Filaments numerous, shorter than the corolla; anthers linear, erect. Germen superior, numerous, sessile, columnar; styles none; stigmas pointed, spreading, shorter than the stamens. Follicles cylindrical, pointed, recurved, collected into a round head. Seeds several, ovate, smooth.—Name said to be from *trol*, a ball, in some of the Gothic dialects. 306.

1. **T. Europæ'us.** L. *Mountain Globe-flower.* Sepals about 15, converging into a globular form; petals from 5 to 10, as long as the stamens.——*Stem* nearly two feet high, round, hollow, branched at the top: leaves cut into 5 deep segments, which are themselves divided, the root-leaves on long stalks. Flower large, globular, bright-yellow. Perennial: flowers in May and June: grows in shady, mountainous situations: not very common. *Eng. Bot.* vol. i. pl. 28. *Eng. Fl.* vol. iii. p. 56. 860.

22. HELLE'BORUS. Linn. HELLEBORE.

Calyx of 5 inferior, roundish, permanent sepals. Petals numerous, very short, in a circle within the sepals, tubular, narrowest beneath, with 2 erect, unequal lips at the orifice. Filaments very numerous, subulate; anthers roundish, 2-celled. Germens superior, from 3 to 10, ovate, compressed, erect; styles subulate; stigmas roundish. Follicles ovate, compressed, leathery. Seeds several, oval, in two rows at the edges of the follicle.—Named from *ἑλειν*, to injure, and *βορα*, food. 307.

1. **H. vi'ridis.** L. *Green Hellebore.* Stem many-flowered, leafy; leaves digitate; sepals spreading.——*Stem* erect, round, a foot and a half high, forked: flowers few, terminal and axillar, green. Fetid and acrid. Perennial: flowers in April and May: grows in woods

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and thickets: rare. *Eng. Bot.* vol. iii. pl. 200. *Eng. Fl.* vol. iii. p. 57. 861.

2. **H. fœ'tidus.** L. *Stinking Hellebore.* Stem many-flowered, leafy; leaves pedate; sepals converging. —— *Stem* two feet high, branched; flowers numerous, panicled, drooping, green, tinged with purple. Fetid, acrid, and violently purgative. Perennial: flowers in March and April: grows in thickets and waste ground: rare, and like the preceding, never truly wild. *Eng. Bot.* vol. ix. pl. 613. *Eng. Fl.* vol. iii. p. 58. 862.

23. CAL'THA. Linn. MARSH MARIGOLD.

Sepals 5 or more, inferior, roundish, spreading. Filaments numerous, filiform, shorter than the sepals; anthers oblong, 2-lobed, erect. Germen superior, from 5 to 10, oblong, compressed, erect; styles none; stigmas obtuse. Follicles cylindrical, pointed, 2-edged. Seeds numerous, oval, arranged along the edges of the follicle.—Named from καλαθος, a cup. 308.

1. **C. palus'tris.** L. *Common Marsh Marigold.* Stem ascending; leaves cordate, rounded.——*Root* large: stem about a foot high, hollow, round, branched, decumbent, and radicant at the base, or ascending, or erect: lower leaves stalked, upper sessile: petals 5, roundish, bright-yellow. Perennial: flowers in May and June: grows in marshy places, and about the edges of rivers and lakes. Slightly acrid, sometimes eaten by cattle. *Eng. Bot.* vol. viii. pl. 506. *Eng. Fl.* vol. iii. p. 59. A variety, with somewhat triangular acutely crenate leaves, and a creeping stem, is by some made a species under the name of *C. radicans.* *Eng. Bot.* vol. xxi. pl. 2175. *Eng. Fl.* vol. iii. p. 60. 863.

CLASS VIII. DIDYNAMIA.

Plants bearing Flowers with Four Stamens, of which the two outer are longer.

Order I. GYMNOSPERMIA. *Carpels 1-seeded, generally 4.*

* *Calyx with 5 segments, nearly regular.*

1. A'JUGA. *Calyx* 5-partite. *Upper lip* of *Corolla* short, entire, or emarginate.
2. TEU'CRIUM. *Calyx* 5-dentate. *Upper lip* of *Corolla* very deeply cut into 5 remote lobes.
3. NE'PETA. *Upper lip* of the *Corolla* flat, cleft; *lower lip* with numerous notches; *throat* bordered and reflexed at each side.
4. MEN'THA. *Corolla* nearly regular, 4-lobed. *Calyx* equal, 5-toothed. *Filaments* straight, spreading widely.
5. LA'MIUM. *Upper lip* of the *Corolla* vaulted, entire; *lower* 2-lobed, with a tooth on each side of the throat.
6. GALEOP'SIS. *Upper lip* of the *Corolla* vaulted, crenate; *lower* 3-lobed, with two hollow prominences at the base in front.

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7. GALEOB'DOLON. *Lower lip* of the *Corolla* in 3 undivided segments.
8. BETO'NICA. *Upper lip* of the *Corolla* nearly flat, ascending; the tube cylindrical, incurved; middle lobe of lower lip nearly entire, longer than the lateral spreading lobes. *Stamens* not longer than the throat.
9. STA'CHYS. *Lower lip* of the *Corolla* with reflexed lateral lobes. *Stamens* finally spreading outwards at each side.
10. BALLO'TA. *Calyx* with 10 furrows, *Upper lip* of the *Corolla* vaulted, hairy.
11. MARRU'BIUM. *Calyx* with 10 furrows. *Upper lip* of the *Corolla* straight, linear, cleft.
12. LEONU'RUS. *Calyx* tubular, 5-dentate. *Upper lip* of the *Corolla* very hairy, nearly flat; *lower lip* with 3 obtuse lobes.
13. VERBE'NA. *Calyx* with one of the 5 teeth shorter. *Corolla* tubular, nearly equal, curved. *Stamens* in the tube.

** *Calyx 2-lipped.*

14. CLINOPO'DIUM. *Calyx* many-ribbed. An *involucre* of numerous taper leaves under the flowers.
15. ORI'GANUM. *Calyx* ribless. *Involucres* of numerous, dilated, flat leaves, 1 to each flower, collected into a kind of cone.
16. THY'MUS. *Calyx* with a circle of hairs internally, apices of stamens spreading at the mouth.
17. MELITTIS. *Calyx* wider than the tube of the *Corolla*. *Upper lip* of the *Corolla* nearly flat. *Anthers* approaching in pairs, and forming a cross.
18. SCUTELLA'RIA. *Lips* of the *Calyx* closing over the fruit; *upper lip* of *Corolla* with a vaulted process.
19. PRUNEL'LA. *Filaments* forked, 1 of the points bearing the single-celled anther.
20. CALAMIN'THA. *Calyx* with the upper lip nearly flat, the lower 3-fid; apices of stamens connivent.

Order II. ANGIOSPERMIA. *Seeds in a Capsule.*

* *Calyx 4-cleft.*

21. BARTSIA. *Capsule* 2-celled. *Corolla* ringent, its upper lip bifid, not compressed.
22. RHINAN'THUS. *Capsule* 2-celled. *Calyx* inflated, 4-toothed. *Corolla* ringent, its upper lip compressed.
23. EUPHRA'SIA. *Capsule* 2-celled. *Upper lip* of the *Corolla* with several notches, not compressed.
24. MELAMPY'RUM. *Capsule* 2-celled. *Calyx* tubular. *Upper lip* of the *Corolla* vaulted, compressed, with a reflexed border at each side.
25. LATHRÆ'A. *Capsule* 1-celled. A depressed gland at the base of the *germen*.

** *Calyx 5-cleft.*

26. PEDICULA'RIS. *Capsule* 2-celled. *Corolla* ringent, the *upper lip* compressed.
27. LINA'RIA. *Capsule* 2-celled. *Corolla* closed with a palate, and having a prominence at the base.

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28. ANTIRRHI'NUM. *Capsule* 2-celled. *Corolla* closed with a palate, and having a spur at the base behind.
29. SCROPHULA'RIA. *Capsule* 2-celled. *Calyx* 5-partite. *Corolla* with an inflated nearly globular tube.
30. DIGITA'LIS. *Capsule* 2-celled. *Calyx* 5-partite. *Corolla* campanulate, inflated beneath, the limb obliquely 4-lobed, unequal.
31. LINNÆ'A. *Berry* dry, 3-celled, 1 cell only bearing a single perfect *seed*. *Corolla* campanulate. *Calyx* superior.
32. SIBTHOR'PIA. *Capsule* 2-celled, with transverse partitions. *Calyx* 5-sepalous. *Corolla* nearly rotate. *Stamens* coming together laterally in pairs.
33. LIMOSEL'LA. *Capsule* imperfectly 2-celled. *Calyx* 5-partite. *Corolla* campanulate, 5-cleft, nearly equal.

*** *Calyx 2-leaved.*

34. OROBAN'CHE. *Sepals* lateral. A *gland* at the base of the *germen* beneath. *Capsule* 1 celled, 2-valved.

DIDYNAMIA—GYMNOSPERMIA.

1. A'JUGA. Linn. BUGLE.

Calyx subovate, deeply divided into 5 nearly equal segments, permanent. Corolla gaping; tube sometimes inflated at the base; upper lip very short, erect, abrupt, emarginate; lower lip large, 3-lobed; the middle lobe undivided or notched; the lateral lobes small. Filaments longer than the upper lip, incurved. Germens superior, of 4 rounded lobes; style incurved; stigma divided into 2 acute, spreading segments. Achenia 4, oblong, rugged, in the bottom of the unaltered calyx.—Name supposed to be altered from *abigo*, to drive away. 309.

1. **A. pyramida'lis.** L. *Pyramidal Bugle.* Plant hairy; whorls of flowers crowded into a pyramidal form; root-leaves very large, obovate, obtuse, crenate; upper lip of the corolla deeply cleft.——*Stem* four or five inches high: corolla bluish-purple, with dark streaks: upper lip in 2 deep, acute lobes. Perennial: flowers in June: grows in dry heathy pastures in the Highlands of Scotland: found on Ben Nevis by Dr. Hope, Tor Aichaltie by Mr. W. Gibb, on Ronaval in Harris, and a few other places in Scotland. *Eng. Bot.* vol. xviii. pl. 1270. *Eng. Fl.* vol. iii. p. 66. 864.

2. **A. alpi'na.** L. *Alpine Bugle.* Leaves oblong, narrowed below, nearly smooth, irregularly toothed, the uppermost white; whorls of flowers rather distant.——*Stem* four or five inches high: corolla pale-blue, with darker streaks. Perennial: flowers in July: grows on mountains: rare. Carnarvonshire, Derbyshire, and Durham. *Eng. Bot.* vol. vii. pl. 477. *Eng. Fl.* vol. iii. p. 65. 865.

3. **A. rep'tans.** L. *Common Bugle.* Plant almost smooth, with a solitary stem and creeping scions; lower lip of the corolla 4-cleft.——*Stem* erect, simple, about six or eight inches high: flowers pale-blue. Perennial: flowers in May: grows in woods and moist pastures: common. *Eng. Bot.* vol. vii. pl. 489. *Eng. Fl.* vol. iii. p. 65. 866.

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4. **A. Chamæpi'tys.** Sm. *Yellow Bugle. Ground Pine.* Stem spreading, branched; leaves divided into 3 linear entire segments; flowers axillar, solitary, shorter than the leaves.——*Stems* several, hairy: leaves crowded: corolla yellow. Annual: flowers in April and May: grows in sandy fields in England: rare. *Eng. Bot.* vol. ii. pl. 77. *Eng. Fl.* vol. iii. p. 67. 867.

2. TEU'CRIUM. Linn. GERMANDER.

Calyx tubular, or somewhat campanulate, a little unequal, tumid at the base, the limb divided into 5 acute segments. Corolla ringent; tube cylindrical, short, curved upwards; upper lip as if wanting, being divided to the base into 2 distant lateral lobes; lower lip spreading, 3-lobed, the central lobe largest. Filaments much longer than the upper lip, ascending, curved. Germen superior, 4-cleft. Style incurved; stigma divided into 2 acute, spreading segments. Achenia 4, oblong, wrinkled, in the bottom of the permanent calyx. Named after *Teucer*, prince of Troy. 310.

1. **T. Scorodo'nia.** L. *Wood Sage. Wood Germander.* Leaves oblong-ovate, cordate at the base, serrate, stalked; flowers in lateral racemes; stems erect.——*Root* creeping: stem about a foot and a half high, acutely 4-cornered, hairy: leaves wrinkled, corolla pale-yellow. The whole plant is bitter, and is said to answer instead of hops in making beer. Perennial: flowers in July: grows in woods, the clefts of rocks, and among rubbish: common. *Eng. Bot.* vol. xxii. pl. 1543. *Eng. Fl.* vol. iii. p. 68. 868.

2. **T. Scordi'um.** L. *Water Germander.* Leaves oblong, sessile, downy, with tooth-like serratures; flowers axillar, stalked, in pairs; stem procumbent.——*Root* creeping: stems branched: leaves hoary: corolla pale-purple. Very bitter. The leaves powdered are used as a vermifuge. Perennial: flowers in July and August: grows in wet meadows: rare. Isle of Ely, about Cambridge, on the banks of the Isis; several parts of Ireland. *Eng. Bot.* vol. xii. pl. 828. *Eng. Fl.* vol. iii. p. 68. 869.

3. **T. Chamæ'drys.** L. *Wall Germander.* Leaves ovate, cuneiform and entire at the base, inciso-serrate, stalked; flowers axillar, 3 together, stalked; stem rounded, hairy.——*Root* creeping: stems nearly erect, about a foot high, with rounded corners: leaves fringed, even: flowers crimson. The whole plant is very bitter, and was formerly used medicinally. Perennial: flowers in July: grows on old buildings: rare. Winchelsea Castle; city wall of Norwich; an old wall at Rubislaw, near Aberdeen, &c.: probably not indigenous. *Eng. Bot.* vol. x. pl. 680. *Eng. Fl.* vol. iii. p. 69. 870.

4. **T. Bo'trys.** L. *Cut-leaved Annual Germander.* Leaves bipinnatifid, with oblong divaricate lobes; floral leaves similar; flowers axillar, 2 or 3 together.——*Annual:* flowers in August: Boxhill, Surrey: found by Mr. T. Ingall. *Phytologist*, i. 1086. 871.

3. NEPETA. Linn. CAT-MINT.

Calyx tubular, cylindrical, many-ribbed, with 5 acute, erect teeth. Corolla ringent; tube cylindrical, slender, incurved, dilated at the throat, which has on each side a narrow, reflexed

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lobe; upper lip erect, roundish, slightly cleft; lower rounded, concave, large, trifid, with numerous notches. Filaments close to each other, covered by the upper lip; anthers before bursting approaching in pairs. Germen small, 4-cleft; style capillary, of the length of the stamens; stigma cleft, acute. Achenia 4, subovate, even, in the bottom of the dry permanent calyx.—Name uncertain: some say from *Nepa*, a scorpion. 311.

1. **N. Cata'ria.** L. *Common Cat-mint.* Stems erect; flowers in spikes; whorls on short stalks; leaves stalked, cordate, with tooth-like serratures.——*The* whole plant soft and downy: stems two or three feet high, erect, branched: leaves paler beneath: flowers numerous, white, lower lip dotted with crimson. Cats are extravagantly fond of the smell of this plant. Perennial: flowers in July and August: grows in hedges and waste places: not common. *Eng. Bot.* vol. ii. pl. 137. *Eng. Fl.* vol. iii. p. 70. 872.

2. **N. hedera'cea.** L. *Ground Ivy. Gill. Ale-hoof.* Stems procumbent; leaves reniform, crenate.——*Roots* creeping, sending out long runners: stems frequently several feet long, creeping: leaves stalked: flowers bluish-purple, with a variegated palate. This plant is aromatic, and has been variously used as a medicine. Perennial: flowers in April and May: grows by old walls, hedges, and road-sides: common. *Glechoma hederacea*, Linn. Sm. *Nepeta Glechoma*, Benth., Bab., Hooker, &c. *Eng. Bot.* vol. xii. pl. 853. *Eng. Fl.* vol. iii. p. 88. The specific name given by Linnæus *must* be restored. 873.

4. MEN'THA. Linn. MINT.

Calyx tubular, erect, with 5 nearly equal marginal teeth. Corolla straight, funnel-shaped, a little longer than the calyx; limb deeply divided into 4 nearly equal segments, the upper slightly notched. Filaments straight, distant, arising from the throat of the corolla; anthers 2-lobed. Germen superior, 4-lobed; style capillary, erect; stigma protruded, divided into 2 sharp, equal, spreading segments. Achenia 4, small, in the bottom of the calyx.—Name, μινθα, an ancient Greek term. 312.

1. **M. sylves'tris.** L. *Horse Mint.* Spikes oblong, scarcely interrupted; leaves deeply serrate, acute, downy; bracts narrow, lanceolate; calyx hairy.——*The* whole plant covered with fine downy hairs: stems erect, two or three feet high, branched, leafy, with deflexed hairs: leaves sessile, ovate, hoary: spikes terminal, with linear bracts, and pale-purple flowers. Perennial: flowers in August and September: grows in moist waste ground: not common. *Eng. Bot.* vol. x. pl. 686. *Eng. Fl.* vol. iii. p. 73. 874.

2. **M. vi'ridis.** L. *Spear Mint.* Spikes elongated, interrupted; leaves lanceolate, acute, naked, sessile; bracts linear; flower-stalks smooth.——*Stems* two or three feet high, erect, branched, acutely 4-cornered, smooth: spikes panicled, elongated, acute, the whorls of pale-purple flowers a little distant. All the species of mint have a strong aromatic smell, but the properties of this being more agreeable than those of the others, it has been preferred, and is em-

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ployed for culinary and medicinal purposes. Perennial: flowers in August: grows in watery places: rare, and perhaps never truly wild. *Eng. Bot.* vol. xxxiv. pl. 2424. *Eng. Fl.* vol. iii. p. 75. 875.

3. **M. rotundifo'lia.** L. *Round-leaved Mint.* Spikes oblong, interrupted, somewhat hairy; leaves elliptical, obtuse, wrinkled, acutely crenate, shaggy beneath; bracts lanceolate.——*The* whole plant covered with long soft hairs: stem about two feet high: under surface of the leaves white and woolly. Perennial: flowers in August and September: grows in wet places: not common. *Eng. Bot.* vol. vii. pl. 446. *Eng. Fl.* vol. iii. p. 74. 876.

4. **M. piperi'ta.** Sm. *Pepper Mint.* Spikes obtuse, interrupted below; leaves stalked, ovato-lanceolate, smoothish; calyx very smooth at the base.——*Stems* nearly erect, from two to four feet high, roughish, with recurved hairs: leaves dark-green, acute, serrate, more hairy beneath: spikes interrupted and leafy below: corollas purple: bracts lanceolate, fringed. Perennial: flowers in August and September: grows in watery places. Here and there in England, and Scotland; the only apparently natural station that I have seen for it is the pools near Selkirk, formed by the Yarrow. The essential oil and distilled water of this plant are used in a variety of cordial or medicinal preparations. *Eng. Bot.* vol. x. p. 687. *Eng. Fl.* vol. iii. p. 76. 877.

5. **M. citra'ta.** Ehrh. *Bergamot Mint.* Spikes in heads very obtuse; leaves stalked, cordate, naked on both sides; calyx and flower-stalks smooth.——*Stems* about two feet high. branched; leaves serrate: flowers in round terminal heads: corolla reddish-purple. Perennial: flowers in August and September: grows in watery places: rare, and not indigenous. *Eng. Bot.* vol. xv. pl. 1025. *M. odorata.* *Eng. Fl.* vol. iii. p. 78. 878.

6. **M. aqua'tica.** *Water Capitate Mint.* Flowers in heads or whorls; leaves stalked, ovate, serrate, hairy; calyx hairy; flower-stalks with recurved hairs.——*This* species varies exceedingly in its appearance: flowers pale-purple. Perennial: flowers in August and September: grows in ditches, and by the sides of pools, lakes, and streams: common. *Mentha hirsuta.* Sm. *Eng. Bot.* vol. vii. pl. 447 and 448. *Eng. Fl.* vol. iii. p. 79. 879.

7. **M. ru'bra.** Sm. *Tall Red Mint.* Flowers in whorls; stem erect, zig-zag; leaves stalked, broadly ovate, serrate, smooth; flower-stalks and lower part of the calyx smooth.——*Stems* from four to five feet high: leaves of a deep shining green, bracts linear, fringed: corolla large, purplish red. Perennial: flowers in September: grows in watery places: not common. *Eng. Bot.* vol. xx. pl. 1413. *Eng. Fl.* vol. iii. p. 82. 880.

8. **M. genti'lis.** Sm. *Bushy Red Mint.* Flowers in whorls; stem much branched, spreading; leaves stalked, ovate, serrate, slightly hairy; flower-stalks and lower part of the calyx nearly smooth. ——*Stem* erect, bushy, with numerous spreading branches, about a foot and a half high: bracts lanceolate, hairy: corolla pale-purple. Perennial: flowers in August: grows in watery places: rare. *Eng. Bot.* vol. xxx. pl. 2118. *Eng. Fl.* vol. iii. p. 83. *M. gracilis* of Smith, *Eng. Bot.* pl. 449, *Eng. Fl.* vol. iii. p. 84, is probably a variety of this. 881.

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9. **M. sati'va.** L. *Marsh Whorled Mint.* Flowers in few subglobose capitate whorls, the uppermost terminal; leaves stalked, ovato-lanceolate, serrate, hairy.——*Stems* from one to two feet high. Perennial: flowers in July and August: grows in wet places. *Eng. Bot.* 448. 882.

10. **M. arven'sis.** L. *Corn Mint.* Flowers in whorls; leaves stalked, ovate; stem branched, spreading; calyx campanulate, covered with spreading hairs.——*Pale-green*, hairy; stems from six inches to a foot long, generally decumbent: leaves serrate: flowers pale-purple. Perennial: flowers from June to September: grows in corn-fields, in dry ditches, and in pastures: common. *Eng. Bot.* vol. xxx. pl. 2119. *Eng. Fl.* vol. iii. p. 85. 883.

11. **M. pule'gium.** L. *Penny Royal.* Flowers in whorls; leaves elliptical, blunt, obtusely crenate, downy: stems prostrate; flower-stalks and calyx downy.——*Stems* hairy, branched, creeping: leaves stalked, full of pellucid dots: corolla light-purple, externally hairy. Perennial: flowers in September: grows in moist heaths and pastures, in England, and the south of Ireland: rare. *Eng. Bot.* vol. xv. pl. 1026. *Eng. Fl.* vol. iii. p. 87. 884.

5. LA'MIUM. Linn. DEAD-NETTLE.

Calyx tubular, becoming wider towards the mouth, with 5 nearly equal, bristle-tipped teeth. Corolla ringent; tube cylindrical, very short; limb open; throat inflated, compressed, bulging, bordered at each side with one or more little reflexed teeth; upper lip vaulted, roundish, obtuse; lower lip shorter, inversely cordate, notched. Filaments covered by the upper lip; anthers oblong, hairy. Germen 4-cleft; style capillary, of the length of the stamens; stigma divided into 2 acute, spreading segments. Achenia 4, short, 3-cornered, convex on one side, at the bottom of the calyx.—Named from λαιμος, the throat. 313.

1. **L. al'bum.** L. *White Dead-nettle. White Archangel.* Leaves cordate, pointed, deeply serrate, hairy; flowers about twenty in a whorl.——*Root* creeping: stems decumbent at the base, erect, about a foot high: covered with short deflexed hairs: leaves veiny, hairy: flowers large, white, hairy. Perennial: flowers in May and June, but individuals may be seen in flower at all seasons: grows among rubbish, and by hedges, walls, and road-sides: common. *Eng. Bot.* vol. xi. pl. 768. *Eng. Fl.* vol. iii. p. 89. A variety with purple flowers and spotted leaves is the *L. maculatum, Spotted Dead-nettle. Eng. Bot.* vol. xxxvi. pl. 2550. *Eng. Fl.* vol. iii. p. 90. 885.

2. **L. purpu'reum.** L. *Red Dead-nettle* or *Archangel.* Leaves cordate, bluntish, unequally crenate, stalked, the upper ones crowded; tube of the corolla closed near the bottom with hairs.——*Root* fibrous: stem curved at the base and branched, then erect, densely leafy at the top: flowers purplish-red. Annual: flowers all the year round: grows in loose soil everywhere. *Eng. Bot.* vol. xi. pl. 769. *Eng. Fl.* vol. iii. p. 91. 886.

3. **L. incl'sum.** Willd. *Cut-leaved Dead-nettle.* Leaves broadly cordate, obtuse, stalked, irregularly cut, the upper ones crowded;

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tube of the corolla inwardly naked.——*Resembling* the last, but differing essentially in the characters given. The leaves are less rugged and thinner. Annual: flowers all the year round: grows in loose soil: common. *Eng. Bot.* vol. xxvii. pl. 1933. *Eng. Fl.* vol. iii. p. 91. 887.

4. **L. interme'dium.** Fries. *Intermediate Dead-nettle.* Leaves obtusely inciso-crenate, the lower stalked, upper cordato-reniform, nearly sessile; teeth of the calyx longer than the tube, spreading; lateral lobes of the lower lip of the corolla with a small tooth.——*Annual:* flowers from June to October: grows in cultivated ground and waste places: common in Scotland: rarer in England and Ireland. *Eng. Bot. Suppl.* 2941. 888.

5. **L. amplexicau'le.** L. *Hen-bit Dead-nettle.* Leaves broadly cordate, obtuse, deeply crenate, the upper ones embracing the stem.——*Lower* leaves stalked, upper sessile, all hairy: corolla with the upper lip crimson and downy, the lower pale and spotted. It frequently occurs with a small externally hairy corolla, which never expands. Annual: flowers in the summer months: grows in loose soil: common. *Eng. Bot.* vol. xi. pl. 770. *Eng. Fl.* vol. iii. p. 92. 889.

6. GALEOP'SIS. Linn. HEMP-NETTLE.

Calyx tubular, with 5 spreading spine-tipped teeth, as long as the tube. Corolla ringent; tube slender at the base, dilated at the throat, which has two prominences, hollow beneath, in front; upper lip vaulted, roundish, serrate at the end; lower lip deeply 3-lobed, the lateral lobes roundish, the middle one larger, cleft and crenate. Filaments subulate, covered by the upper lip; anthers roundish, cleft. Germen superior, 4-lobed; style capillary, as long as the stamens; stigma divided into 2 acute, spreading segments. Achenia 4, triangular, convex at the top, in the bottom of the stiff, thorny, open calyx.—Name from γαλεη, a weasel, and οψις, appearance. 314.

1. **G. Lada'num.** L. *Red Hemp-nettle.* Stem not swelled below the joints; leaves lanceolate, somewhat serrate, hairy; upper lip of the corolla slightly crenate.——*Stem* about a foot high, erect, with opposite branches: flowers in dense whorls: corolla rose-coloured, spotted with crimson and white. Annual: flowers in August and September: grows among rubbish and in gravelly fields: frequent in England: rare in Scotland. *Eng. Bot.* vol. xiii. pl. 884. *Eng. Fl.* vol. iii. p. 93. 890.

2. **G. ochroleuca.** Lam. *Downy Hemp-nettle.* Stem not swelled below the joints; leaves ovato-lanceolate, serrate, very soft and downy; upper lip of the corolla deeply crenate.——*Stem* erect, branched, woolly: leaves stalked, the lower ovate, the upper lanceolate, taper-pointed: calyx glandular, shaggy: corolla large, pale-yellow, with a large cleft upper lip. Annual: flowers in July and August: grows in sandy corn-fields in England: rare. *G. villosa.* Huds. Sm. *Eng. Bot.* vol. xxxiii. pl. 2353. *Eng. Fl.* vol. iii. p. 94. 891.

3. **G. Te'trahit.** L. *Common Hemp-nettle.* Stem bristly, swelled below

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the joints; corolla twice as long as the calyx, its upper lip nearly straight.——*Stem* from one to two feet high, rough with deflexed, very sharp, prickly bristles: leaves ovate, acute, serrate, hairy on both sides: flowers in numerous dense whorls: corolla with a purple upper lip, and a nearly equally 3-lobed lower one, variegated with white and purple. Annual: flowers in June and July: grows in cultivated grounds, hedges, and waste places: common. *Eng. Bot.* vol. iii. pl. 207. *Eng. Fl.* vol. iii. p. 94. 892.

4. G. versi'color. L. *Large-flowered Hemp-nettle.* Stem bristly, swelled below the joints; corolla thrice as long as the calyx, its upper lip vaulted.——*Stem* from one to two feet high, with deflexed bristles: corolla yellow, the middle segments of the lower lip obcordate, purple: the flowers large and showy. Annual: flowers in July; grows among corn: not common, except in Scotland, where its extremely acute bristles often inflict injury on the hands of the reapers. *Eng. Bot.* vol. x. pl. 667. *Eng. Fl.* vol. iii. p. 95. 893.

7. GALEOB'DOLON. Huds. WEASEL-SNOUT.

Calyx tubular, campanulate, with 5 unequal, spreading, spine-tipped teeth, shorter than the tube, the upper tooth erect, at some distance from the other. Corolla ringent; tube cylindrical, as long as the calyx; upper lip oval, vaulted, hairy, entire, fringed; lower lip shorter, divided into 3 oblong, acute, undivided segments, the middle one longest. Filaments covered by the upper lip; anthers roundish, 2-lobed. Germen 4-lobed; style capillary, as long as the stamens; stigma divided into 2 acute, spreading segments. Seeds 4, short, 3-cornered, abrupt, in the bottom of the open calyx.—Name from γαλεη, a weasel. 315.

1. G. lu'teum. Huds. *Yellow Weasel-snout. Archangel.* Leaves ovate, acuminate, deeply serrate, stalked; upper leaves lanceolate; lower lip of the corolla with the lateral lobes oblong, acute.——*Root* creeping: stems eighteen inches high, simple, leafy, covered with deflexed hairs: leaves hairy: whorls of numerous, hairy flowers: corolla large, yellow, the lower lip spotted with red. Perennial: flowers in May: grows in woods and hedges. *Eng. Bot.* vol. xi. pl. 287. *Eng. Fl.* vol. iii. p. 96. *Lamium Galeobdolon,* Crantz, Babington. 894.

8. BETO'NICA. Linn. BETONY.

Calyx tubular, cylindrical, with 5 nearly equal, spine-tipped teeth, shorter than the tube. Corolla ringent; tube cylindrical, curved; upper lip roundish, undivided, nearly flat, erect; lower lip longer, divided into 3 deep segments, the middle one broader, roundish, notched. Filaments subulate, inclined towards the upper lip; anthers round, 2-lobed. Germen rounded, 4-lobed; style filiform, as long as the stamens; stigma cleft, acute. Achenia 4, ovate, in the bottom of the calyx. Name from the Celtic, *ben,* good, and *ton,* head. 316.

1. B. officina'lis. L. *Wood Betony.* Spike interrupted; middle segment of the lower lip notched.——*Stem* rough, with deflexed

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bristles: leaves oblong, deeply serrate, the lower ones stalked: corolla purple. Perennial: flowers in July and August: grows in woods and thickets. It was formerly much used in medicine. The powdered leaves excite sneezing, and the root is said to be emetic. *Eng. Bot.* vol. xvi. pl. 1142. *Eng. Fl.* vol. iii. p. 97. *Stachys Betonica*, Benth., Babington. 895.

9. STA'CHYS. Linn. WOUNDWORT.

Calyx tubular, angular, with 5 spreading, unequal, acuminate teeth, scarcely so long as the tube. Corolla ringent; tube very short; throat oblong, swelling beneath at the base; the upper lip erect, ovate, vaulted; lower lip larger, with 3 lobes; the lateral ones reflexed, the middle lobe largest and notched. Filaments subulate, ultimately bent towards the side of the mouth; anthers roundish, 2-valved. Germen with 4 divisions; styles filiform, as long as the stamens; stigma cleft, acute. Achenia 4, angular, abrupt, in the bottom of the calyx.—Name σταχυς, a spike. 317.

1. **S. sylva'tica.** L. *Hedge Woundwort.* Whorls of 6 or 8 flowers: leaves cordato-ovate, acute, stalked.——*Stem* two or three feet high, erect, leafy, hairy: leaves serrate, veined, hairy, on long petioles: flowers dull-red, the palate variegated with white and dark purple. It has a strong fetid smell, which is imagined to attract toads. Perennial: flowers in July and August: grows among rubbish, and by hedges and walls. *Eng. Bot.* vol. vi. pl. 416. *Eng. Fl.* vol. iii. p. 98. 896.

2. **S. ambi'gua.** Sm. *Ambiguous Woundwort.* Whorls of 6 flowers; leaves oblong, stalked, cordate at the base.——*Stem* and leaves hairy: flowers red, the palate variegated. Perennial: flowers in August and September: grows in waste places and cultivated ground: common. *Eng. Bot.* vol. xxiv. pl. 1675. *Eng. Fl.* vol. iii. p. 99. Probably only a variety of the next species. 897.

3. **S. palus'tris.** L. *Marsh Woundwort.* Whorls of from 6 to 10 flowers; leaves lanceolate, embracing the stem; root tuberous. ——*Stem* erect, from two to three feet high, rough with deflexed bristles: leaves serrate, somewhat woolly beneath: flowers purplish-red, variegated with white and dark purple. Perennial: flowers in August: grows about edges of rivers, ponds, and ditches, and in wet fields: frequent. *Eng. Bot.* vol. xxiv. pl. 1675. *Eng. Fl.* vol. iii. p. 99. 898.

4. **S. Germa'nica.** L. *Downy Woundwort.* Whorls many-flowered; leaves ovato-lanceolate, or oblong, crenate, densely covered with white woolly hairs; stem woolly, erect.——*Stems* two feet high; corolla light-purple; palate striped with white. Perennial: flowers in September: grows in hedges and by road-sides in England: rare. *Eng. Bot.* vol. xii. pl. 829. *Eng. Fl.* vol. iii. p. 100. 899.

5. **S. arven'sis.** L. *Corn Woundwort.* Whorls 6-flowered; stem weak; leaves cordato-ovate, obtuse, crenate, slightly hairy.——*Stem* branched, ascending: corolla small, light-purple, palate white and spotted with purple. Annual: flowers in July and August: grows in gravelly or sandy fields: frequent. *Eng. Bot.* vol. xvii. pl. 1154. *Eng. Fl.* vol. iii. p. 100. 900.

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6. S an'nua. L. *Pale Annual Woundwort.* Whorls 6-flowered: leaves lanceolate, broadly serrate, 3-nerved, the lower stalked.——*Stem* erect, downy: calyx hairy, with subulate segments: corolla light-purple. Annual: flowers in August: found in a field between Gadshill and Rochester, by Jos. Woods, Esq. *Eng. Bot. Suppl.* pl. 2669. *Brit. Fl.* 4th ed. p. 233. 901.

10. BALLOTA. Linn. BLACK-HOREHOUND.

Calyx tubular, oblong, or funnel-shaped, with 10 ribs, and 10 furrows, the limb dilated, spreading, plaited, regular, with 5 pointed teeth. Corolla ringent; tube cylindrical, as long as the calyx; upper lip erect, ovate, notched; lower lip 3-lobed, the middle lobe larger and cleft. Filaments subulate, directed towards the upper lip; anthers oblong, 2-valved. Germen small, 4-lobed; style filiform, as long as the stamens; stigma slender, cleft. Achenia 4, ovate, in the bottom of the somewhat hardened calyx.—Named from βαλλω, to reject, on account of its offensive odour. 318.

1. B. ni'gra. L. *Black Horehound.* Leaves ovate, undivided, serrate; calyx funnel-shaped, abrupt, with short spreading teeth.——*Stem* two or three feet high, erect, branched, downy: calyx dilated at the mouth: corolla dull purple: upper lip cleft, covered externally with white hairs, lower marked with white veins. Perennial: flowers in July and August: grows among rubbish, and in hedges: common. *Eng. Bot.* vol. i. pl. 46. *Eng. Fl.* vol. iii. p. 101. 902.

11. MARRU'BIUM. Linn. WHITE HOREHOUND.

Calyx tubular, funnel-shaped, with 10 furrows, the limb spreading, regular, generally with 10 narrow teeth. Corolla ringent; tube cylindrical; throat elongated, tubular; upper lip erect, linear, divided into 2 acute lobes; lower lip broader, reflexed, divided into 3 deep lobes; the lateral ones acute, the middle lobe larger and cleft. Filaments much shorter than the corolla, covered by the upper lip; anthers small, oblong. Germen rounded, 4-lobed; styles filiform, as long as the stamens; stigma cleft, acute. Achenia 4, oblong, truncate in the bottom of the hardened calyx, which is contracted at the neck.—Name supposed to be derived from *Maria urbs*, an ancient town of Italy. 319.

1. M. vulga're. L. *Common White Horehound.* Calyx-teeth 10, bristle-shaped, hooked backwards; leaves broadly ovate, unequally serrate.——*Stem* bluntly 4-cornered, branched, woolly: lower leaves stalked, upper sessile, woolly: flowers white. Perennial: flowers in July: grows in dry waste ground, and by road-sides: frequent. *Eng. Bot.* vol. vi. pl. 410. *Eng. Fl.* vol. iii. p. 103. 903.

12. LEONU'RUS. Linn. MOTHERWORT.

Calyx funnel-shaped, with 5 or 10 ribs, and 5 acute, spreading teeth. Corolla ringent; tube narrow, short; upper lip longest, concave, protuberant, rounded, and undivided at the end, shaggy; lower lip reflexed, deeply divided into 3 lanceolate,

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nearly equal lobes. Filaments much shorter than the corolla, covered by the upper lip; anthers oblong, compressed, cleft, covered with minute, globular, shining, hard dots. Germen 4-lobed, abrupt; style filiform, incurved; stigma cleft, acute. Achenia 4, oblong, abrupt, hairy, in the tube of the hardened calyx.—Name from λεων, a lion, and ουρα, tail. 320.

1. L. Cardi'aca. L. *Common Motherwort.* Stem-leaves lanceolate, 3-lobed.——*Stem* two or three feet high, minutely downy, acutely 4-cornered: calyx stiff and sharp-bristled: corolla purplish, the upper lip white with erect hairs, the lower variegated. Perennial: flowers in August: grows in hedges and waste places: not common. 904.

13. VERBE'NA. Linn. VERVAIN.

Calyx tubular, angular, with 5 marginal teeth, one rather shorter than the rest. Corolla unequal; tube cylindrical, straight, twice as long as the calyx; limbs spreading, divided into 5 deep, rounded, somewhat unequal segments. Filaments 2 or 4, very short, incurved, within the tube of the corolla; anthers of 2 rounded lobes. Germen 4-cornered; styles slender, as long as the tube; stigma obtuse. Achenia 2 or 4, oblong.—Name Celtic, from *fer*, to drive, and *faen*, a stone. 321.

1. V. officina'lis. L. *Common Vervain.* Stamens 4; spikes slender, panicled; leaves deeply cut; stem generally solitary.——*Root* woody: stem ascending, a foot and a half high, leafy, covered with minute bristles: leaves roughish, pinnatifid: flowers small, bluish. Perennial: flowers in July: grows by road-sides, and in waste ground, about villages: frequent in England. *Eng. Bot.* vol. xi. pl. 767. *Eng. Fl.* vol. iii. p. 71. 905.

14. CLINOPO'DIUM. Linn. WILD-BASIL.

Involucre of numerous setaceous leaves, under the flowers, nearly as long as the calyx. Calyx tubular, many-ribbed, slightly curved, 2-lipped; upper lip broader, ascending, divided into 3 acute segments; lower lip longer, incurved, divided into 2 deep slender segments; throat closed with hairs. Corolla ringent; tube cylindrical, rather short; throat longer and wider; upper lip erect, concave, obtuse, slightly cleft; lower lip divided into 3 segments, the middle one very broad and notched. Filaments cylindrical, directed towards the upper lip, shorter than the corolla; anthers 2-lobed, meeting in pairs so as to form a cross. Germen 4-lobed; style filiform, as long as the stamens; stigma 2-cleft, pointed. Seeds 4, ovate, in the bottom of the closed, tumid calyx.—Named from κλινη, a bed, and πους, a foot. 322.

1. C. vulga're. L. *Common Wild-Basil.* Leaves ovate, obscurely serrate; whorls bristly; involucral leaves subulate; flower-stalks branched.——*Stems* ascending, about a foot high, hairy: whorls few, axillar and terminal: flowers light purple. Perennial: flowers in August: grows in bushy places, about hedges, and by roads:

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frequent. *Eng. Bot.* vol. xx. pl. 1401. *Eng. Fl.* vol. iii. p. 105. *Calamintha Clinopodium.* Benth. 906.

15. ORI'GANUM. Linn. MARJORAM.

Involucre of numerous imbricated, ovate, flat, coloured leaves, one under each flower, longer than the calyx. Calyx with an obtusely angular tube. Corolla ringent; tube cylindrical, compressed; upper lip erect, flat, obtuse, notched; lower lip deeply divided into 3 nearly equal, undivided lobes. Filaments capillary, as long as the corolla; anthers distant, ovate, 2-lobed. Germen 4-lobed; style filiform, ascending; stigma slightly notched. Achenia 4, ovate, in the bottom of the closed calyx. —Named from ορος, a mountain, and γανος, joy. 323.

1. O. vulga're. L. *Common Marjoram.* Spikes roundish, panicled, crowded, erect; involucral leaves ovate, longer than the calyx. ——*Stem* a foot high, purplish, leafy, with short recurved hairs: leaves ovate, very slightly serrate, opposite, dotted, hairy, sprinkled with resinous dots: flowers light-purple. It has a warm aromatic flavour. Perennial: flowers in July and August: grows in bushy places and dry banks: frequent. *Eng. Bot.* vol. xvi. pl. 1143. *Eng. Fl.* vol. iii. p. 106. 907.

16. THY'MUS. Linn. THYME.

Calyx tubular, many-ribbed, 2-lipped, beset internally at the mouth with hairs; upper lip broader, flat, erect, with 3 acute teeth; lower lip of 2 longer subulate teeth. Corolla ringent; tube as long as the calyx; upper lip shorter, flat, erect, obtuse, with a small notch; lower lip longer and broader, 3-lobed, the middle lobe broader. Filaments capillary, incurved, shorter than the corolla; anthers 2-lobed. Germen 4-cleft; style filiform; stigma divided into 2 acute segments. Achenia 4, small, roundish, in the bottom of the closed calyx.—Name θυμος, strength, or courage. 324.

1. T. Serpyl'lum. L. *Wild Thyme.* Flowers in small heads: stems branched, decumbent; leaves flat, ovate, obtuse, entire, fringed at the base.——*Stems* lying along the ground, somewhat woody, with numerous branches, each terminating in a dense head of pale-purple flowers. The smell of the whole plant is aromatic and pleasant. Bees are said to be greatly attached to this plant, and it has been alleged to give a fine flavour to mutton. It varies greatly as to size and hairiness, as well as to smell, certain varieties being entirely scentless: sometimes the leaves are hoary with long white hairs, in which state it often produces no flowers. Perennial: flowers in July and August: grows in dry pastures: common. *Eng. Bot.* vol. xxii. pl. 1514. *Eng. Fl.* vol. iii. p. 108. 908.

17. MELITTIS. Linn. BASTARD-BALM.

Calyx campanulate, slightly angular, straight, 2-lipped; upper lip rather longer, acute; lower acute, deeply cleft. Corolla ringent; tube much narrower than the calyx; throat slightly

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dilated; upper lip erect, rounded, entire; lower lip 3-lobed, the middle lobe larger, and obcordate. Filaments subulate, straight, shorter than the upper lip; anthers 2-lobed, coming together so as to form a double cross. Germen 4-lobed, downy; style filiform, as long as the stamens; stigma cleft, acute. Achenia 4, oval, small, in the bottom of the open calyx.—Name from μελισσα, a bee. 325.

1. **M. Melissophyl'lum.** L. *Reddish Bastard-balm.* Calyx with 3 unequal lobes.——*Stem* nearly simple, covered with fine hairs: leaves oblong, subcordate, serrate, hairy: corolla twice as long as the calyx, downy, externally pale-red, internally whitish, with a crimson spot on each of the lobes. Perennial: flowers in May and June: grows in woods and hedges in the south and west of England. *Eng. Bot.* vol. ix. pl. 577. *Eng. Fl.* vol. iii. p. 111. The *M. grandiflora, Purple-and-white Bastard-balm,* is a handsome variety of this plant, with large light-red or cream-coloured flowers, having a violet spot on the lower lip. *Eng. Bot.* vol. ix. pl. 636. *Eng. Fl.* vol. iii. p. 112. 909.

18. SCUTELLA'RIA. Linn. SKULL-CAP.

Calyx very short, ovate, slightly 2-lipped, with 4 shallow, obtuse lobes, closed after flowering by a dorsal scale. Corolla ringent, with a very short tube; upper lip concave, divided into 3 segments, the middle one cleft and concave, the other flat, acute, lower lip broader, divided into 3 shallow lobes. Filaments concealed under the upper lip; anthers small, roundish, 2-lobed. Germen 4-lobed. Style filiform, as long as the stamens; stigma undivided, acute, incurved. Achenia 4, roundish, in the bottom of the calyx, and covered by the enlarged dorsal scale.—Name from *scutella*, a small vessel. 326.

1. **S. galericula'ta.** L. *Common Skull-cap.* Leaves ovato-lanceolate, crenate, wrinkled, cordate at the base; flowers axillar.——*Stem* about a foot high, erect, leafy: flowers purplish-blue. Perennial: flowers in July and August: grows on the stony banks of rivers and lakes: frequent. *Eng. Bot.* vol. viii. pl. 523. *Eng. Fl.* vol. iii. p. 113. 910.

2. **S. mi'nor.** L. *Less Skull-cap.* Leaves ovato-lanceolate, entire, cordate at the base; flowers axillar.——*From* four to six inches high: flowers pale reddish-purple, the lower lip white, dotted with red. Perennial: flowers in July and August: grows in watery places: not common. *Eng. Bot.* vol. viii. pl. 524. *Eng. Fl.* vol. iii. p. 113. 911.

19. PRUNEL'LA. Linn. SELF-HEAL.

Calyx campanulate, 2-lipped; upper lip flat, dilated, abrupt, with 3 very short, acute teeth; lower lip much narrower, straight, divided into 2 acute segments. Corolla ringent; tube short, cylindrical; throat longer and wider; upper lip concave, entire, inflexed; lower lip reflexed, divided into 3 obtuse crenate lobes, the middle one broader. Filaments directed

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towards the upper lip, subulate, forked at the top; anthers on the lower branch of the filaments. Germen 4-lobed; style filiform, as long as the stamens; stigma divided into 2 acute, recurved points. Achenia 4, oval, in the bottom of the closed calyx.—Name from the Germen *braune*, a disease of the throat. 327.

1. P. vulga'ris. L. *Self-heal.* All the leaves between oblong and ovate, stalked; teeth of the upper lip of the calyx very minute. ——*Stem* from four to eight inches high, erect, leafy, downy, branched below, terminating in dense whorled spikes, of deep-purple flowers, each whorl with 2 broad obtuse bracts. Perennial: flowers in July and August: grows in meadows and pastures, abundantly in sterile fields: common. *Eng. Bot.* vol. xiv. pl. 961. *Eng. Fl.* vol. iii. p. 114. 912.

20. CALAMIN'THA. Mœnch. CALAMINTH. WILD-BASIL.

Calyx tubular, 13-nerved; its upper lip 3-fid, lower 2-fid, the throat generally hairy. Tube of the corolla straight; upper lip nearly flat, lower lip spreading, trifid. Filaments filiform; cells of the anthers at length diverging. Germen 4-cleft. Achenia 4.—Name from καλος, good, and μινθα, mint. 328.

1. C. A'cinos. Clairv. *Common Basil.* Flowers in whorls, 1 on each flower-stalk; stems branched, ascending; leaves acute, serrate. ——*Stems* about six inches high, leafy: flowers bluish-purple, variegated with white and dark purple. Annual: flowers in July and August: grows in cultivated fields and dry pastures: not common. *Eng. Bot.* vol. vi. pl. 411. *Eng. Fl.* vol. iii. p. 109. *Thymus Acinos*, Linn. *Acinos vulgaris*, Pers. 913.

2. C. Ne'peta. Link. and Hoffm. *Lesser Calamint.* Flowers in whorls, on branched stalks, longer than the leaves; leaves serrate; stem ascending, hairy.——*Flower-stalks* subdivided: flowers pale-purple: mouth of the calyx with conspicuous white hairs. Perennial: flowers in August: grows by way-sides and on dry banks. *Melissa Nepeta*, Linn. *Thymus N.*, Smith. *Eng. Bot.* vol. xx. pl. 1414. *Eng. Fl.* vol. iii. p. 110. 914.

3. C. officina'lis. Mœnch. *Common Calamint.* Flowers in whorls, on branched stalks: leaves ovate, serrate; stem erect, downy.——*Flower-stalks* 3-forked, the lateral divisions again forked: corolla twice as long as the calyx, light-purple dotted with blue. The whole plant has a pleasant aromatic smell. Perennial: flowers in July and August: grows by way-sides and the borders of fields: not common. *Thymus Calamintha*, Scop., Sm. *Eng. Bot.* vol. xxvi. pl. 1676. *Eng. Fl.* vol. iii. p. 109. 915.

4. C. sylva'tica. Bromf. *Wood Calamint.* "Leaves broadly ovate, sharply serrate; calyx tubular, distinctly 2-lipped; teeth with long cilia, those of the upper lip patent or reflexed: lower lip of the corolla with overlapping segments, all nearly equally long; cymes many-flowered, stalked." Isle of Wight. Flowers in August and October. Bab. *Man.* 246. 916

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ANGIOSPERMIA.

21. BARTSIA. Linn. BARTSIA.

Calyx tubular, coloured, with 4 acute, nearly equal, marginal segments. Corolla ringent, a little compressed; tube short; throat funnel-shaped; upper lip longer, concave, undivided; lower lip reflexed, deeply divided into 3 nearly equal lobes. Filaments filiform, incurved; anthers 2-celled, a little hairy, collected under the upper lip. Germen simple, ovate, acute; style filiform, curved; stigma obtuse. Capsule ovate, pointed, compressed, 2-celled, 2-valved. Seeds numerous, small, angular.—Named after Dr. *John Bartsch*, a Prussian botanist. 329.

1. **B. alpi'na.** L. *Alpine Bartsia.* Leaves opposite, ovate, obtusely serrate: stem square, root creeping.——*Stems* from four to eight inches high, simple, hairy: leaves sessile in pairs on the opposite sides of the stem, somewhat cordate: flowers axillar, forming a close leafy spike: corolla purplish-blue: calyx purplish. Perennial: flowers in July: grows in elevated pastures, in the Highlands of Perthshire and the north of England: rare. *Eng. Bot.* vol. vi. pl. 361. *Eng. Fl.* vol. iii. p. 117. 917.

2. **B. risco'sa.** L. *Yellow Bartsia.* Leaves lanceolate, serrate, the upper alternate; flowers lateral and distant; stem round; root fibrous.——*Stem* erect, downy, about a foot high: corolla yellow, with purple stains. Annual: flowers in July and August: grows in marshy ground, along the west coast: frequent. *Eng. Bot.* vol. xv. pl. 1045. *Eng. Fl.* vol. iii. p. 118. 918.

3. **B. Odonti'tes.** Huds. *Red Bartsia.* Leaves lanceolate, serrate, the upper alternate; flowers in unilateral clusters; stems square, branched.——*Stem* from six inches to a foot high, branched, the branches terminating in a leafy cluster of numerous rose-coloured flowers. Perennial: flowers in July and August: grows in moist meadows and pastures, and in corn-fields, and by road-sides: common. *Eng. Bot.* vol. xx. pl. 1415. *Eng. Fl.* vol. iii. p. 119. 919.

22. RHINAN'THUS. Linn. YELLOW-RATTLE.

Calyx roundish, inflated, compressed, with 4 nearly equal, acute, marginal teeth. Corolla ringent; tube nearly cylindrical, as long as the calyx; upper lip narrower, galeate, compressed, slightly cleft; lower lip broader, expanded, deeply divided into 3 obtuse segments, the middle one somewhat larger. Filaments capillary, shorter than the upper lip, and concealed by it; anthers 2-lobed, hairy. Germen ovate, compressed, with a channel at each side; style capillary, curved, a little longer than the stamens; stigma obtuse, bent inwards. Capsule roundish, compressed, with a small point, 2-celled, 2-valved. Seeds compressed, imbricated, bordered.—Name from ῥὶν, the nose, and ἄνθος, a flower. 330.

1. **R. Cris'ta-gal'li.** L. *Yellow-rattle.* Stem branched, leaves oblongo-lanceolate, serrate; flowers in lax spikes; calyx smooth;

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seeds with a dilated membranous border.——*Stem* about a foot high, generally with a few branches, sometimes bushy: leaves rough, wrinkled: flowers axillar, crowded into a leafy spike: calyx membranous: corolla yellow: the ripe seeds rattle in the capsule. Annual: Flowers in June: grows in pastures: common. *Eng. Bot.* vol. x. pl. 657. *Eng. Fl.* vol. iii. p. 120. 920.

2. **R. angustifo'lius.** Gmel. *Large Bushy Yellow-rattle.* Leaves linear-lanceolate, the upper acuminate; flowers in crowded spikes; calyx smooth; seeds with a membranous margin.——*Stem* about a foot high: leaves rough, wrinkled: flowers in denser spikes than in the last species. Annual: flowers in July and August: grows in corn-fields in the north of England. This, in all probability, is merely a variety of the last. *Rh. major*, Sm. *Eng. Bot. Suppl.* pl. 2737. 921.

23. EUPHRA'SIA. Linn. EYE-BRIGHT.

Calyx tubular, cylindrical, ribbed, with 4 deep, equal, pointed, marginal teeth. Corolla ringent; tube as long as the calyx, cylindrical; upper lip slightly concave, crenate; lower lip divided into 3 deep, unequal, obtuse, cleft or notched segments. Filaments capillary, directed towards the upper lip; anthers large, of two lobes, pointed at the base, the points of the lower anthers elongated into straight bristles. Germen ovate; style filiform, as long as the stamens; stigma obtuse. Capsule oblong, obtuse, compressed, 2-celled, 2-valved. Seeds minute, elliptical, compressed, furrowed.—Name ευφρασια, joy. 331.

1. **E. officina'lis.** L. *Common Eye-bright.* Leaves ovate, furrowed, deeply toothed.——*About* four inches high, with a square, generally branched leaf: flowers axillar, solitary: corolla white, streaked with purple, yellowish on the palate: the stem, however, varies from one to eight inches, and from simple to bushy. Annual: flowers from July to September: grows in pastures, abundantly. *Eng. Bot.* vol. xx. pl. 1416. *Eng. Fl.* vol. iii. p. 122. 922.

24. MELAMPY'RUM. Linn. COW-WHEAT.

Calyx tubular, with 4 deep, straight, unequal, marginal segments. Corolla ringent; tube oblong, curved; throat a little dilated, compressed; upper lip vaulted, compressed, notched, reflexed at the edge on both sides; lower lip slightly plaited with 2 prominences on the palate, divided into 3 nearly equal, obtuse segments. Filaments subulate, incurved, concealed under the upper lip; anthers oblong, 2-lobed. Germen ovate, pointed; style capillary, as long as the stamens; stigma obtuse. Capsule oblong, obliquely pointed, compressed, its upper edge convex; the lower straight, 2-celled, 2-valved, the partitions transverse. Seeds 2 in each cell, ovate, obtuse.—Name from μελας, black, and πυρος, wheat. 332.

1. **M. crista'tum.** L. *Crested Cow-wheat.* Spikes 4-sided; bracts cordate, closely imbricated, finely toothed.——*Stems* a foot high, or

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more, leafy, roughish: leaves nearly linear, rough on the edges: bracts pectinate: flowers variegated with cream-colour and light-purple, the palate yellow. Annual: flowers in July: grows in woods and thickets in many parts of England. *Eng. Bot.* vol. i. pl. 41. *Eng. Fl.* vol. iii. p. 123. 923.

2. **M arven'se.** L. *Purple Cow-wheat.* Spikes conical: bracts loose, lanceolate, pinnatifid.——*Stem* from one and a half to two feet high, acutely 4-cornered: leaves lanceolate, rough on the edges: bracts loosely spreading: flowers large, with a yellow corolla, its lips variegated with pale-red and purple. Annual: flowers in July: grows in corn-fields in Norfolk: rare. *Eng. Bot.* vol. i. p. 53. *Eng. Fl.* vol. iii. p. 154. 924.

3. **M. praten'se.** L. *Common Yellow Cow-wheat.* Flowers axillar, pointing one way; corolla closed, four times as long as the calyx; upper floral leaves toothed at the base.——*Stem* smooth, branched; leaves lanceolate, pointed, smooth, entire: the uppermost toothed, sometimes pinnatifid at the base: flowers solitary, opposite: corolla pale at the base, deep yellow towards the top, with a purple spot at each side of the mouth. Annual: flowers in July and August: grows in woods, bushy places, heaths, and pastures: frequent. *Eng. Bot.* vol. ii. pl. 113. *Eng. Fl.* vol. iii. p. 125. 925.

4. **M. sylva'ticum.** L. *Wood Cow-wheat.* Flowers axillar, in distant pairs, pointing one way; corolla open, about twice as long as the calyx; leaves nearly all entire.——*This* resembles the last, but has the corolla smaller, deep-yellow, with some red spots about the mouth. Annual: flowers in July and August: grows in elevated woods: rare. *Eng. Bot.* vol. xii. pl. 804. *Eng. Fl.* vol. iii. p. 126. 926.

25. LATHRÆ'A. Linn. TOOTHWORT.

Calyx campanulate, with 4 deep, erect, nearly equal marginal segments. Corolla ringent; tube longer than the calyx, limb tumid; upper lip vaulted, acute; lower lip smaller, spreading, obtuse. A notched, depressed, very short gland, placed on the receptacle, at the lower side of the germen. Filaments subulate, shorter than the corolla, concealed by its upper lip; anthers obtuse, coming together. Germen roundish, compressed; style cylindrical, as long as the stamens; stigma abrupt, notched, bent downwards. Capsule roundish, obtuse, with a small point; 1-celled, 2-valved, invested by the enlarged calyx. Seeds numerous, roundish, attached to a spongy, longitudinal receptacle in the middle of each valve.—Name from λαθραιος, concealed. 333.

1. **L. squama'ria.** L. *Greater Toothwort.* Stem simple; flowers pendulous, their lower lip 3-cleft.——*Stem* rounded, six or eight inches high: leaves ovate, thick, entire, smooth, cream-coloured, imbricated: flowers axillar, solitary, or they may be considered as forming a one-sided raceme: corolla dull-purple, its upper lip deeply cleft. Perennial: flowers in April: grows in shady places, parasitic on the roots of trees: frequent. *Eng. Bot.* vol. i. pl. 50. *Eng. Fl.* vol. iii. p. 127. 927.

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26. PEDICULA'RIS. Linn. LOUSEWORT.

Calyx with a roundish, tumid, somewhat compressed tube, and 5, sometimes only 2, unequal, leafy, jagged segments. Corolla ringent; tube oblong, unequal; upper lip narrower, erect, vaulted, compressed, notched; lower lip dilated, flat, deeply divided into 3 obtuse segments, the middle one narrower. A gland under the germen. Filaments filiform, concealed by the upper lip; anthers 2-lobed, acute at the lower part, compressed. Germen ovate; style filiform, longer than the stamens; stigma simple, bent downwards. Capsule oblong, pointed, oblique, 2-celled, 2-valved, the partitions from the centre of each valve. Seeds few, angular, pointed, attached to a nearly globular receptacle at the base.—Name from *pediculus* a louse, it being supposed to cause sheep to be infested with ticks. 334.

1. **P. palus'tris.** L. *Marsh Lousewort.* Stem solitary, branched; calyx ovate, hairy, ribbed, with 2 unequally notched lobes.——*Stem* erect, a foot high, much branched: leaves stalked, doubly pinnatifid: flowers axillar, opposite, solitary, rose-coloured. Annual: flowers in June and July: grows in marshes and wet pastures: common. *Eng. Bot.* vol. vi. pl. 399. *Eng. Fl.* vol. iii. p. 129. 928.

2. **P. sylva'tica.** L. *Common Lousewort.* Stems several, spreading, simple; calyx oblong, angular, smooth, with 5 unequal notched segments.——*Stems* about eight inches long, the central one erect, the others spreading: leaves twice pinnatifid, root-leaves ovate, undivided, crenate: flowers bright rose-coloured. Perennial: flowers in July: grows in moist heathy pastures: common. *Eng. Bot.* vol. vi. pl. 400. *Eng. Fl.* vol. iii. p. 129. 929.

27. LINA'RIA. Juss. TOAD-FLAX.

Calyx with 5 deep, oblong, permanent segments; the 2 lower more distant from each other. Corolla ringent, spurred at the base; upper lip cleft, reflexed at the sides; lower lip obtuse, 3-lobed, with an elevated palate, closing the mouth, and hollow beneath. Filaments concealed by the upper lip; anthers approaching each other. Germen roundish or ovate; style filiform, as long as the stamens; stigma obtuse. Capsule roundish or oval, obtuse, 2-celled. Seeds numerous, roundish, or angular, attached to an oblong, cylindrical receptacle, in the middle of the partition.—Name from *linum*, flax, which the leaves resemble. 335.

1. **L. Cymbala'ria.** L. Miller. *Ivy-leaved Toad-flax.* Leaves cordate, 5-lobed, alternate; stems procumbent.——*Stems* spreading or pendulous, round, smooth, leafy: leaves alternate, stalked, shining: flowers pale-purple, with a yellow palate, and short pointed spur. Perennial: flowers from May to November: grows on old walls: common, but introduced. *Eng. Bot.* vol. vii. pl. 502. *Eng. Fl.* vol. iii. p. 131. 930.

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2. **L. spu'ria.** L. Mill. *Round-leaved Toad-flax.* Leaves ovate, downy, alternate; stems procumbent, hairy.——*Stems* branched, leafy: leaves mostly alternate, the lowermost only opposite: flowers on slender, axillar stalks: corolla with a recurved greenish spur, the upper lip purple; the lower yellow, with an orange palate. Annual: flowers from July to September: grows in corn-fields in England: rare. *Eng. Bot.* vol. x. pl. 691. *Eng. Fl.* vol. iii. p. 131. 931.

3. **L. Ela'tine.** L. Desf. *Sharp-pointed Toad-flax.* Leaves broadly hastate, alternate, the lowest ovate, opposite; stems procumbent, hairy.——*Upper* lip of the corolla yellow, lower lip edged with deep purple. Annual: flowers from July to September: grows in corn-fields in England: frequent. *Eng. Bot.* vol. x. pl. 692. *Eng. Fl.* vol. iii. p. 132. 932.

4. **L. re'pens.** L. Ait. *Creeping Pale-blue Toad-flax.* Leaves linear, glaucous, scattered; calyx smooth, as long as the spur.——*Smooth* and glaucous: root creeping: stems about a foot high, numerous, branched, and panicled: leaves entire, erect, the upper alternate: flowers numerous, in panicled clusters: spur conical, pale-grey: lower lip of the same colour: palate yellow: upper lip and tube striped with blue. Perennial: flowers from July to September: grows on dry banks and on rocks near the sea, in the south-west of England and Wales. *Eng. Bot.* vol. xviii. pl. 1253. *Eng. Fl.* vol. iii. p. 133. 933.

5. **L. vulga'ris.** Mœnch. *Common Yellow Toad-flax.* Leaves linear-lanceolate, crowded; spikes terminal; flowers imbricated; calyx smooth, shorter than the spur.——*The* whole plant smooth: stems two feet high, densely covered with narrow acute leaves, with a terminal dense spike of yellow flowers, having an orange-coloured palate. A variety occurs with a regular 5-cleft, 5-spurred corolla. Perennial: flowers in June and July: grows in hedges, and at the edges of fields: common. *Eng. Bot.* vol. x. pl. 658. *Antirrhinum Linaria.* Linn. *Var.* vol. iv. pl. 260. *Eng. Fl.* vol. iii. p. 134. 934.

6. **L. minor.** Desf. *Least Toad-flax.* Leaves linear-lanceolate, obtuse, downy, alternate; stems much branched, spreading; calyx longer than the spur.——*Whole* plant downy and clammy: stem from six to twelve inches high: flowers small, on long solitary, axillar stalks: tube, upper lip and spur purplish, lower lip white, with yellow palate. Annual: flowers from June to September: grows in sandy fields in England, and near Glasgow: rare. *Eng. Bot.* vol. xxviii. pl. 2014. *Eng. Fl.* vol. iii. p. 135. 935.

28. ANTIRRHI'NUM. Linn. SNAP-DRAGON.

Calyx with 5 deep oblong permanent segments, the 2 lower more distant from each other. Corolla ringent; tumid at the base; upper lip cleft; lower lip 3-lobed; with an elevated palate closing the mouth, and hollow beneath. Filaments concealed by the upper lip; anthers approaching each other. Germen ovate; style filiform; stigma obtuse. Capsule ovate, oblique, 2-celled. Seeds numerous, roundish.—Name, from *αντι*, in comparison with, and *ῥιν*, a nose. 336.

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1. **A. ma'jus.** L. *Great Snap-dragon.* Corolla with a rounded prominence at the base; flowers in a dense cluster; leaves lanceolate; segments of the calyx ovate, obtuse.——*Stem* branched, leafy, downy, and clammy: leaves opposite or alternate, acute, recurved, smooth: flowers large, rose-coloured, with a large yellow palate, white in front. Perennial: flowers in June and July: grows on old walls: frequent, but is not indigenous. *Eng. Bot.* vol. ii. pl. 129. *Eng. Fl.* vol. iii. p. 135. 936.

2. **A. Oron'tium.** L. *Small Snap-dragon.* Corolla with scarcely any prominence at the base; flowers loosely spiked; sepals linear, longer than the corolla.——*Stem* about a foot high, branched, leafy: leaves lanceolate, somewhat stalked, alternate: flowers axillar, nearly sessile: corolla rose-coloured, with a yellow palate. Annual: flowers in July and August: grows in dry sandy fields in England: frequent. *Eng. Bot.* vol. xvii. pl. 1155. *Eng. Fl.* vol. iii. p. 136. 937.

29. SCROPHULA'RIA. Linn. FIGWORT.

Calyx with 5 rounded, somewhat unequal, marginal segments, much shorter than the corolla. Corolla tubular, unequal, reversed; tube ovate, large, inflated; limb very small, divided into 5 deep segments, the upper short, slightly notched, reflexed, 2 lateral ones spreading, 2 lower largest, erect, often accompanied by a small internal lobe. Filaments declining, nearly as long as the corolla; anthers terminal, 2-celled. Germen ovate; style simple, as long as the stamens; stigma simple. Capsule ovate or globular, pointed, 2-celled, 2-valved; the partition formed by the edge of the valves turned in. Seeds numerous, small, attached to a globose central receptacle.—Named from the resemblance of the roots to scrofulous tumours. 337.

1. **S. nodo'sa.** L. *Knotted-rooted Figwort.* Leaves cordato-triangular, acute, serrate, smooth; corners of the stem acute; root tuberous.——*Stem* from two to three feet high, nearly simple, smooth: leaves stalked, unequally serrate: flowers in a panicled, leafy cluster, with a dull green corolla, having a livid purple lip. The whole plant emits a fetid, nauseating smell. Perennial: flowers in June and July: grows in woods and shady places: frequent. *Eng. Bot.* vol. xxii. pl. 1544. *Eng. Fl.* vol. iii. p. 137. 938.

2. **S. Ehrhar'ti.** C. A. Stev. *Ehrhart's Figwort.* Leaves ovato-lanceolate, acute, serrate, the lower serratures smaller; petioles winged; stem 4-sided, winged; cymes lax, few-flowered; capsule obtuse.——*Stem* from two to four feet high, decidedly winged; flowers dark-purple, bracts lanceolate, leaf-like. Perennial: flowers in August and September: grows in wet places: Wilmingdon, Sussex; Primrose Hill, Middlesex; Berwick-upon-Tweed, Cramond Bridge, and Pentland Hills. *Eng. Bot. Suppl.* 2875. 939.

3. **S. aqua'tica.** L. *Water Figwort.* Leaves cordato-oblong, bluntish, decurrent on their stalks; cymes dense, corymbose, many-flowered; stem winged, root fibrous.——*Stem* about three feet high, with membranous angles: cluster of many forked branches, with

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numerous flowers having the tube green, and the limb dark-red: fetid like the two last. Perennial: flowers in July: grows in watery places: frequent. *Eng. Bot.* vol. xii. pl. 854. *Eng. Fl.* vol. iii. p. 138. 940.

4. **S. Scorodo'nia.** L. *Balm-leaved Figwort.* Leaves cordato-triangular, doubly serrate, downy beneath; cymes leafy.——*Stems* about three feet high, branched, bluntly 4-cornered, covered with soft spreading hairs: flowers on axillar downy stalks, forming a leafy cluster: tube of the corolla pale, lower lip dull purple. Perennial: flowers in July and August: grows on the banks of rivulets in Jersey and Cornwall, and in Ireland. *Eng. Bot.* vol. xxxi. pl. 2209. *Eng. Fl.* vol. iii. p. 139. 941.

5. **S. verna'lis.** L. *Yellow Figwort.* Leaves cordate, doubly serrate, downy; flower-stalks axillar, solitary, forked, leafy; corolla without an internal lobe.——*The* whole plant downy: stem about two feet high, with slightly winged corners: leaves opposite, the uppermost alternate, stalked, acute: flowers pale-yellow. Biennial: flowers in April and May: grows in hedges and thickets: rare, probably not indigenous. *Eng. Bot.* vol. viii. pl. 567. *Eng. Fl.* vol. iii. p. 139. 942.

30. DIGITA'LIS. Linn. FOXGLOVE.

Calyx deeply divided into 5 ovate, acute segments, the upper narrower. Corolla campanulate; tube cylindrical at the base, dilated and bulging upwards; limb small, with 4 or 5 unequal lobes, the upper recurved, the lower largest. Filaments subulate, arising from the tube of the corolla, declining; anthers broad, 2-lobed; style filiform, as long as the stamens; stigma cleft, acute. Capsule ovate, pointed, 2-celled, 2-valved, with a double partition formed by the inflexed margins of the valves. —Named from *digitate*, the finger of a glove. 338.

1. **D. purpu'rea.** L. *Foxglove.* Segments of the calyx ovate, acute; corolla obtuse, its upper lobe nearly entire; leaves ovate or ovato-lanceolate, crenate, downy.——*Stem* erect, from two to four feet high: leaves alternate, irregularly crenate, wrinkled and veined: raceme terminal, erect, simple, with numerous large, pendulous, crimson flowers, elegantly mottled, and hairy within. Infusion and tincture of the leaves are used in dropsy, and for diminishing the rapidity of the pulse in inflammations. One of the most elegant and showy of our native plants. Biennial: flowers in June and July: grows in dry hilly pastures, on the steep banks of rivers, in rocky places, &c.: common. *Eng. Bot.* vol. xix. pl. 1297. *Eng. Fl.* vol. iii. p. 140. 943.

31. LINNÆ'A. Gronov. LINNÆA.

Calyx deeply divided into 5 erect, lanceolate, acute, equal segments. Corolla campanulate, with the tube cylindrical, dilated upwards, about twice as long as the upper calyx, the limb divided into 5 nearly equal, spreading segments. Involucre 4-leaved at the base of the germen. Filaments subulate, arising from the base of the corolla, shorter than its limb; anthers

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oblong, compressed. Germen globular, 3-celled; style cylindrical, as long as the corolla, declining; stigma obtuse. Fruit dry, oblong, 1-celled, invested by the involucre, and crowned by the calyx. Seed solitary, oblong.—So named by Gronovius, in honour of Linnæus. 339.

1. L. borea'lis. Gron. *Two-flowered Linnæa.*——*Root* fibrous: stems prostrate and creeping, forming large patches: leaves opposite, stalked, ovate, slightly hairy: flowering branches axillar, erect, bearing 2 pendulous whitish flowers. Perennial: flowers in June and July: grows in dry fir woods, in various parts of Scotland. First found by Professor James Beattie, junior, at Inglesmaldie, in Kincardineshire; Hill of Kinnoul, near Perth; Kemnay, Woodlands, Scotstown, Countess-Wells, Banchory-House, and many other woods in Aberdeenshire and Kincardineshire; Knock of Alves, near Elgin; Drummond Wood, near Inverness, and many other places in Scotland. *Eng. Bot.* vol. vii. pl. 433. *Eng. Fl.* vol. iii. p. 190. 944.

32. SIBTHOR'PIA. Linn. SIBTHORPIA.

Calyx turbinate, with 4 or 5 deep, ovate, nearly equal, spreading segments. Corolla irregularly rotate, as long as the calyx, with a very short tube, its limb divided into 5 deep, ovate, spreading segments, the two lower smallest. Filaments shorter than the corolla, almost equal, subulate, spreading laterally, and coming together in pairs; anthers oblong, 2-lobed. Germen rounded, compressed; style cylindrical, as long as the filaments; stigma knobbed, flattened. Capsule obcordate, compressed, 2-celled, 2-valved, each valve with a narrow transverse partition. Seeds few, ovate, attached to a central globular placenta.—Named after Dr. H. *Sibthorp*, an Oxford professor of botany. 340.

1. S. Europæ'a. L. *Cornish Money-wort.*——*Stems* numerous, a foot long, filiform, prostrate: leaves stalked, reniform, bluntly crenate: flowers on short axillar, simple stalks: corolla small, whitish. Perennial: flowers in July and August: grows in moist shady places in the south-west of England, and the Channel Islands. *Eng. Bot.* vol. x. pl. 649. *Eng. Fl.* vol. iii. p. 143. 945.

33. LIMOSEL'LA. Linn. MUDWORT.

Calyx campanulate, with 5 shallow, acute, erect, lanceolate segments. Corolla campanulate, erect, equal, with a cylindrical tube, and 5 small, acute segments. Filaments subulate, arising from the mouth of the tube, almost equal, approaching each other in pairs; anthers roundish, 2-lobed. Germen ovate, obtuse; style tapering, short; stigma globose, cleft. Capsule ovate, 2-celled, 2-valved; the partition from the inflexed margin of the valves. Seeds numerous, oblong, furrowed, attached to a large ovate, central placenta.—Name from *limus*, mud. 341.

1. L. aqua'tica. L. *Mudwort.* Leaves lanceolate.——*Root* fibrous,

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throwing out long naked runners: leaves on long stalks: flowers on shortish axillar stalks: corolla whitish. Annual: flowers in July and August: grows in muddy places, which have been covered by water: frequent. *Eng. Bot.* vol. v. pl. 357. *Eng. Fl.* vol. iii. p. 145. 946.

34. OROBAN'CHE. Linn. BROOM-RAPE.

Calyx of 2 opposite, acute, permanent leaves. Corolla ringent; tube ovate, curved; upper lip concave, notched; lower lip reflexed, with 3 equal lobes. A gland under the germen. Filaments subulate, concealed under the upper lip; anthers 2-lobed, rounded at the top, pointed below. Germen oblong; style cylindrical, incurved, as long as the stamens; stigma large, with 2 or 3 globular lobes. Capsule ovate, pointed, 1-celled, 2-valved. Seeds very numerous, minute, covering the 2 longitudinal receptacles.—Name from οροβος, a vetch, and αγχειν, to strangle. 342.

1. **O. ma'jor.** L. *Greater Broom-rape.* Stem simple; corolla inflated, its upper lip slightly notched, the lower with acute, nearly equal segments; stamens smooth; style downy.——*Stem* about a foot high, erect, dusky, fleshy, covered with short, glandular hairs, and scattered, lanceolate, erect scales: spike terminal, of about 20 flowers, with a purplish-brown corolla. Perennial: flowers in June and July: grows in gravelly soil, on the roots of broom and furze: frequent in England. *Eng. Bot.* vol. vi. pl. 421. *Eng. Fl.* vol. iii. p. 146. 947.

2. **O. caryophylla'ceus.** Sm. *Clove-scented Broom-rape.* Stem simple; tube of the corolla inflated above, its upper lip broad, notched, its lower with 3 lobes; stamens hairy; style downy; stigma dark-purple.——*Perennial:* flowers in July: discovered by Mr. G. E. Smith on the roots of *Galium Mollugo*, *Rubus fruticosus*, &c., in South Kent. *Eng. Bot. Suppl.* pl. 2639. *Brit. Fl.* 4th ed. p. 241. 948.

3. **O. ela'tior.** Sutt. *Tall Broom-rape.* Stem simple; corolla funnel-shaped, curved, its upper lip 2-lobate, the lower 3-lobate, the lobes nearly equal, acute; stamens downy in their lower half; style smooth.——Perennial: flowers in July and August: grows on gravelly soil, on *Centaurea Scabiosa*, in various parts of England. *Eng. Bot.* vol. viii. pl. 568. *Eng. Fl.* vol. iii. p. 147. 949.

4. **O. mi'nor.** Sutt. *Less Broom-rape.* Stem simple; corolla nearly cylindrical, curved, its lower lip with curled segments, the middle one largest and lobed; stamens fringed; style smooth.——*Perennial:* flowers in July and August: grows in clover fields in England and Wales: parasitic on *Trifolium pratense*, and other plants: frequent. *Eng. Bot.* vol. vi. pl. 422. *Eng. Fl.* vol. iii. p. 148. 950.

5. **O. Pi'cridis.** F. W. Schultz. *Picris Broom-rape.* Stem simple; sepals longer than the tube of the corolla, with the tips subulate; corolla ventricose at the base, tubular, curved at the tip, upper lip slightly 2-lobed, lower of 3 roundish lobes; stamens hairy at their lower half; style hairy below in front, and in its upper half.

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——*Annual:* flowers in June and July: grows on the roots of *Picris hieracioides;* near Comberton, Cambridgeshire; at Giltar Head, Pembrokeshire, and in the Isle of Wight. *Eng. Bot. Suppl.* 2956. 951.

6. **O. He'deræ.** Duby. *Ivy Broom-rape.* Stem simple; sepals ovate below, suddenly narrowed into 1 or 2 subulate points, as long as the tube of the corolla, or longer; corolla tubular, curved, upper lip 2-lobate, lower of 3 roundish lobes; stamens slightly hairy on the lower half; style downy on the upper parts; lobes of the stigma coherent in their lower half.——*Perennial:* flowers in July and August: parasitic on ivy, in the south and west of England, in Wales, and at Liexlip and Mucross, Ireland. *Eng. Bot. Suppl.* 2859. 952.

7. **O. ru'bra.** Sm. *Red Broom-rape.* Stem simple; corolla somewhat tumid; upper lip cleft, lower in 3 nearly equal, obtuse lobes; stamens fringed; style partially hairy.——*Stem* about eight inches high, simple, swelled at the lower part, purplish-red, tinged with yellow: scales dark-brown: sepals lanceolate: spike of rather close flowers, dusky-red. The whole plant, excepting the scales, is covered with very short glandular hairs. Annual: flowers in July: grows in gravelly soil, in rocky places, in Scotland and Ireland; near Seafield Tower, on the coast of Fife, on disintegrated trap; island of Staffa, on basaltic rocks; island of Harris, at Craig-camna, on gneiss; Cavehill, Belfast. *Eng. Bot.* vol. xxv. pl. 1786. *Eng. Fl.* vol. iii. p. 148. 953.

8. **O. cœru'lea.** Vill. *Purple Broom-rape.* Stem simple; bracts 3; upper lip of the corolla cleft and notched, lower in 3 equal lanceolate segments; style downy.——*Stem* a foot high, dark gray, angular: scales brown: sepals united, cleft: corolla funnel-shaped, grayish-purple: filaments smooth. The whole plant minutely downy. Perennial: flowers in July: grows in grassy pastures near the sea, chiefly in Norfolk: the root parasitical on other plants: rare. *Eng. Bot.* vol. vi. pl. 423. *Eng. Fl.* vol. iii. p. 149. 954.

9. **O. ramo'sa.** L. *Branched Broom-rape.* Stem branched; bracts 3; upper lip of the corolla deeply cleft, lower with 3 equal lobes, all the segments rounded; style smoothish.——*Flowers* light-purple in a loose spike. Annual: flowers in August and September: grows in moist fields, parasitical on the roots of hemp, chiefly in Norfolk and Suffolk: rare. *Eng. Bot.* vol. iii. pl. 184. *Eng. Fl.* vol. iii. p. 150. 955.

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CLASS XV. TETRADYNAMIA.

Plants bearing Flowers with Six Stamens, of which four are longer than the other two.

Order I. SILICULOSA. *Seeds inclosed in a Silicula (a short pod called a pouch).*

1. SUBULA'RIA. *Pouch* entire, oblong, or ovate, transversely compressed, with tumid valves. *Seeds* numerous in each cell. *Cotyledons* incumbent.
2. DRA'BA. *Pouch* entire, oval; valves nearly flat. *Seeds* numerous in each cell. *Cotyledons* accumbent.
3. ALYS'SUM. *Pouch* entire, bordered, laterally compressed, with concave valves. *Seeds* 1 or 2 in each cell.
4. KONIGA. *Pouch* entire, with nearly plane valves. 1 *seed* in each cell.
5. CAMELI'NA. *Pouch* entire, with tumid, 1-nerved valves. *Seeds* numerous. *Cotyledons* incumbent.
6. HUTCHIN'SIA. *Pouch* entire, elliptical; valves keeled, not bordered. *Seeds* at least 2 in each cell. *Cotyledons* accumbent.
7. LEPI'DIUM. *Pouch* cleft, elliptical, 2-celled; valves keeled. 1 *seed* in each cell. *Cotyledons* incumbent or accumbent.
8. THLAS'PI. *Pouch* cleft, obcordate; valves winged. *Seeds* numerous. *Cotyledons* accumbent.
9. CAPSEL'LA. *Pouch* obcordato-triangular; valves carinate; cells many-*seeded*. *Cotyledons* accumbent.
10. TEESDA'LIA. *Pouch* cleft, obcordate, with keeled valves. *Seeds* 2 in each cell. *Filaments* bearing a scale at the base.
11. IBE'RIS. *Pouch* cleft, obcordate. 1 *seed* in each cell. 2 outer *petals* largest.
12. COCHLEA'RIA. *Pouch* nearly entire, turgid, wrinkled, 2-valved. *Seeds* numerous.
13. ARMORA'CIA. *Pouch* turgid, its cells nerveless. *Seeds* several in each cell.
14. SENEBIE'RA. *Pouch* nearly entire, transversely compressed, wrinkled, 2-celled, 2-valved. 1 *seed* in each cell.
15. CRAM'BE. *Pouch* globose, stalked, leathery, 1-celled, without valves, deciduous. *Seed* solitary.
16. CAKI'LE. *Pouch* angular, of 2 1-seeded joints, the upper deciduous.

Order II. SILIQUOSA. *Seeds inclosed in a Siliqua, or long Pod.*

17. DENTA'RIA. *Pod* lanceolate; valves flat, without ribs; narrower than the partition. *Seeds* on flat dilated stalks.
18. CARDAMI'NE. *Pod* linear; valves flat, without ribs, narrower than the partition. *Seeds* in 2 rows, on capillary stalks.
19. A'RABIS. *Pod* linear; valves flat, veined or ribbed. *Seeds* in 1 row.
20. TURRI'TIS. *Pod* linear; valves flat, keeled. *Seeds* in 2 rows.

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21. NASTUR'TIUM. *Pod* nearly cylindrical; valves concave, without keel. *Stigma* obtuse, notched. *Seeds* in a single row, smooth, with filiform stalks. *Calyx* spreading.
22. SISYM'BRIUM. *Pod* nearly cylindrical. *Stigma* knobbed, notched. *Calyx* spreading.
23. ALLIA'RIA. *Pod* nearly cylindrical; valves with 3 longitudinal nerves. *Seeds* in 1 row, striated, with flattened, winged stalks.
24. BARBA'REA. *Pod* 4-cornered, 2-edged. *Seeds* in 1 row. *Calyx* erect. Glands at the inside of the shorter *filaments*.
25. ERY'SIMUM. *Pod* 4-cornered. *Stigma* knobbed, notched. *Calyx* closed.
26. HES'PERIS. *Pod* 4-cornered. *Stigma* with 2 converging lobes. *Calyx* closed, with 2 protuberances at the base.
27. CHEIRAN'THUS. *Pod* compressed, or 2-edged. *Stigma* knobbed, or with 2 spreading lobes. *Calyx* closed; 2 of the sepals prominent at the base.
28. MATTHI'OLA. *Pod* nearly cylindrical, straight. *Stigma* of 2 converging lobes. *Calyx* closed, 2 of the sepals prominent at the base.
29. BRAS'SICA. *Pod* nearly cylindrical, beaked, 2-valved. *Seeds* nearly globular. *Calyx* closed.
30. SINA'PIS. *Pod* nearly cylindrical, somewhat beaked, valves convex, with 3 or 5 nerves. *Seeds* nearly globular, in 1 row. *Calyx* spreading.
31. DIPLO'TAXIS. *Pod* compressed; valves convex, with a single nerve. *Seeds* oval or oblong, in 2 rows.
32. RA'PHANUS. *Pod* with imperfect bulging joints, without valves. *Seeds* globular.

TETRADYNAMIA.—SILICULOSA.

1. SUBULA'RIA. Linn. AWL-WORT.

Calyx erect, deciduous, of 4 equal, oval sepals. Petals 4, obovate, entire, their claws shorter than the calyx. Filaments simple; anthers 2-lobed. Germen ovate, compressed; style none; stigma obtuse. Pouch ovate, transversely compressed, entire, 2-celled, 2-valved; the valves deeply concave; partition membranous, elliptical, parallel to the valves, crossing the narrowest diameter of the pouch. Seeds ovate, four or more in each cell; cotyledons linear, curved. Name from *subula*, an awl. 343.

1. **S. aquati'ca.** L. *Water Awl-wort.*——*Root* of numerous white fibres: leaves subulate, spreading: flowers in a simple, stalked raceme, arising from the root: petals white. Annual: flowers in July: grows in shallow water, in sand or gravel, near the edges of alpine lakes: not unfrequent. *Eng. Bot.* vol. xi. pl. 732. *Eng. Fl.* vol. iii. p. 157. 956.

2. DRA'BA. Linn. WHITLOW-GRASS.

Calyx of 4, somewhat spreading, ovate sepals, equal at the

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base. Petals spreading, with short claws. Filaments subulate; anthers 2-lobed. Germen ovate; style very short; stigma knobbed, flat. Pouch oblong, compressed, entire, 2-celled; the valves nearly flat; partition membranous. Seeds several in each cell, small, roundish; cotyledons accumbent.—Name from δριμύς, acrid. 344.

1. **D. ver'na.** L. *Common Whitlow-grass.* Stem leafless; petals deeply cleft; leaves lanceolate, toothed, hairy.——*Leaves* arranged in a star-like form on the ground: flowers white, in a corymbose cluster. Annual: flowers in March and April: grows on walls and dry loose soil: common. *Eng. Bot.* vol. ix. pl. 586. *Eng. Fl.* vol. iii. p. 158. 957.

2. **D. aizoi'des.** L. *Yellow Alpine Whitlow-grass.* Stem leafless; petals slightly notched, twice as long as the calyx; leaves lanceolate, stiff, glossy, fringed and keeled.——*Flowers* of a bright-yellow colour; pouch with a long style. Perennial: flowers in March and April: grows on walls and rocks about Swansea, Wales. *Eng. Bot.* vol. xviii. pl. 1271. *Eng. Fl.* vol. iii. p. 158. 958.

3. **D. rupes'tris.** Br. *Hairy Whitlow-grass.* Stem nearly leafless; petals undivided; leaves lanceolate, slightly toothed, fringed with simple hairs.——*Stalk* solitary, two or three inches high, round, leafless, or with a single leaf near the bottom: flowers small, white, in a dense corymb. Perennial: flowers in May and June: grows on high mountains in Scotland: rare. *D. hirta. Eng. Bot.* vol. xix. pl. 1338. *Eng. Fl.* vol. iii. p. 159. 959.

4. **D. inca'na.** L. *Twisted-podded Whitlow-grass.* Stem-leaves numerous, lanceolate, hoary, like the stem, with starry hairs; pouch oblong, oblique or twisted, longer than the hairy flower-stalks.——*Stem* from two to twelve inches high. Root-leaves arranged in a star-like form: flowers numerous, white, with obcordate petals. Biennial: flowers in May and June: grows in rocky places, on the mountains of Scotland, Wales, and the north of England: frequent. *Eng. Bot.* vol. vi. pl. 388. *Eng. Fl.* vol. iii. p. 160. 960.

5. **D. mura'lis.** L. *Speedwell-leaved Whitlow-grass.* Stem branched; leaves amplexicaul, ovate, toothed, hairy; pouch elliptical, obtuse, flat, shorter than the partial stalks.——*Stem* erect, about a foot high, leafy, rough, with starry hairs: flowers very numerous, small, white. Annual: flowers in April and May: grows on walls in England and Ireland: not common. *Eng. Bot.* vol. xiii. pl. 912. *Eng. Fl.* vol. iii. p. 161. 961.

3. ALYS'SUM. Linn. ALYSSUM.

Calyx of 4 ovate, equal sepals. Petals ovate, flat, spreading, with short claws. Filaments about the length of the calyx; anthers 2-lobed. Germen round or elliptical, compressed; styles short; stigma small, simple. Pouch round, oval, or obovate, compressed, 2-celled; valves flattish; partition membranous. Seeds 1 or 2 in each cell, oval, compressed.—Named from α, privative, and λυσσα, rage. 345.

1. **A. calycinum.** L. *Calycine Alyssum.* Herbaceous, hoary; leaves

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obovato-lanceolate, narrowed below; pouch orbicular, downy.——*Petals* yellow. Annual: flowers in June and July: grows in fields and pastures, but not indigenous. *Eng. Bot. Suppl.* 2853. 962.

4. KONIGA. Br. KONIGA.

Calyx of 4 ovate, equal, spreading sepals. Petals ovate, entire. Filaments about the length of the sepals; anthers 2-lobed. Germen oval, compressed; style short; stigma simple. Pouch subovate, with nearly flat valves.—Named after Mr. *Konig*, of the British Museum. 346.

1. **K. mari'tima.** L. Br. *Sea-side Koniga.* Stem somewhat woody, much branched; leaves lanceolate, acute, entire, hoary with close hairs; seeds solitary.——*Flowers* abundant, in dense corymbose clusters: petals white. Perennial: flowers in August and September: grows on banks and rocks near the sea: but is not indigenous. Found in the south of England. *Alyssum maritimum.* *Eng. Bot.* vol. xxv. pl. 1729. *Eng. Fl.* vol. iii. p. 63. 963.

5. CAMELI'NA. Crantz. CAMELINA. GOLD-OF-PLEASURE.

Calyx of 4 oblong, equal, spreading, deciduous sepals. Petals oblong, undivided, with shortish claws. Filaments filiform; anthers cordate. Germen roundish; style cylindrical, erect; stigma obtuse. Pouch obovate, 2-celled, the valves inflated, the partition membranous. Seeds numerous in each cell, oblong, compressed.—Name χαμαι λινον, dwarf-flax. 347.

1. **C. sa'tiva.** Cr. *Gold-of-Pleasure.* Pouch obovate, bordered, twice the length of the style; leaves lanceolate, sagittate at the base.——*Stem* erect, about two feet high: flowers small, pale-yellow. Annual: flowers in June: grows in cultivated ground, chiefly among flax, with which it has been imported. *Eng. Bot.* vol. xviii. pl. 1254: *Alyssum sativum.* *Eng. Fl.* vol. iii. p. 164. 964.

6. HUTCHIN'SIA. Br. HUTCHINSIA.

Calyx of 4 elliptical, equal, spreading, deciduous leaves. Petals obovate, entire. Filaments subulate; anthers roundish. Germen oval, compressed. Style compressed; stigma obtuse. Pouch elliptical, compressed, nearly entire, 2-celled; valves carinate; partition narrow, crossing the greater diameter of the pouch. Seeds 2 or more in each cell, ovate. Named after Miss *Hutchins*, an Irish botanist. 348.

1. **H. petræ'a.** Br. *Rock Hutchinsia.* Leaves pinnate, entire; petals scarcely as long as the calyx; stigma sessile; seeds 2 in each cell.——*Stems* two or three inches high, erect, branched: flowers minute, white, corymbose. Annual: flowers in March and April: grows on rocks and walls in the west of England, and in Wales: frequent. *Eng. Bot.* vol. ii. pl. 211: *Lepidium petræum.* *Eng. Fl.* vol. iii. p. 168. 965.

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7. LEPIDIUM. Linn. PEPPER-WORT.

Calyx of 4 ovate, concave, deciduous leaves. Petals obovate, undivided, with narrow claws. Filaments subulate, as long as the calyx; anthers 2-lobed. Germen roundish; style slender; stigma obtuse. Pouch round or oblong, compressed; notched at the top, 2-celled; the valves carinate; partition very narrow, crossing the greater diameter of the pouch. Seeds 1 in each cell, ovate.—Named from λεπις, a scale. 349.

1. L. latifo'lium. L. *Broad-leaved Pepper-wort.* Leaves ovato-lanceolate, undivided, serrate.——*Stem* three feet high, branched: flowers numerous, very small, white, in compound leafy panicled clusters. Perennial: flowers in July: grows in marshes and meadows near the sea: rare. *Eng. Bot.* vol. iii. pl. 182. *Eng. Fl.* vol. iii. p. 165. 966.

2. L. Dra'ba. Br. *Whitlow Pepper-wort.* Leaves lanceolate, amplexicaul; pouch cordate, its valves turgid.——*About* a foot high, with large, distant leaves, and corymbs of numerous white flowers: pouch cordate, with the style about its own length. Perennial: flowers in June: grows in fields and hedges in various places in the south of England, where it has been naturalized. *Eng. Bot. Suppl.* pl. 2683. *Brit. Fl.* 4th ed. p. 247. 967.

3. L. rudera'le. L. *Narrow-leaved Pepper-wort.* Lower leaves pinnatifid, toothed: upper linear, entire; stamens 2; petals none. ——*The* whole plant smooth, glaucous: stem about ten inches high. Annual: flowers in June: grows in waste ground: frequent. *Eng. Bot.* vol. xxiii. pl. 1595. *Eng. Fl.* vol. iii. p. 166. 968.

4. L. campes'tre. L. Br. *Mithridate Pepper-wort.* Pouch covered with minute scales, notched, bordered at the top: style very short; stem-leaves sagittate, toothed.——*More* or less downy and glaucous: lowest leaves obovate: flowers numerous, small, white, corymbose. Annual: flowers in July: grows in cultivated fields: frequent. *Eng. Bot.* vol. xx. pl. 1385: *Thlaspi campestre. Eng. Fl.* vol. iii. p. 166. 969.

5. L. Smi'thii. Hook. *Hairy Mithridate Mustard.* Pouch ovate, notched, not scaly, bordered at the top; style prominent; stem-leaves sagittate, toothed.——*Stems* hairy, from six to eight inches high: flowers white. Perennial: flowers in June: grows on the edges of fields, and on gravelly or rocky banks. *Eng. Bot.* vol. xxvi. pl. 1803: *Lepidium hirtum. Eng. Fl.* vol. iii. p. 167. 970.

8. THLAS'PI. Linn. PENNY-CRESS.

Calyx of 4 ovate, concave, spreading, equal sepals. Petals ovate, equal, undivided, with short claws. Filaments slender; anthers cordate, acute. Germen roundish; style short; stigma obtuse. Pouch laterally compressed, roundish or obcordate, emarginate, 2-celled; valves winged; partition elliptical, crossing the greater diameter of the pouch. Seeds ovate, several in each cell.—Named from θλαω, to flatten. 350.

1. T. arven'se. L. *Mithridate Mustard. Field Penny-cress.* Pouch

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round, nearly flat, shorter than its stalk; leaves smooth, oblong, toothed.——*About* a foot high, branched, smooth: flowers small, white, in dense corymbs: pouches very large, with a deep notch. The seeds have a strong flavour of garlick. Annual: flowers in June and July: grows in cultivated and waste ground: frequent. *Eng. Bot.* vol. xxiv. pl. 1659. *Eng. Fl.* vol. iii. p. 171. 971.

2. **T. perfolia'tum.** L. *Perfoliate Shepherd's-purse.* Pouch obcordate; stem-leaves cordate, smooth, somewhat toothed; style very short.——*Glaucous*, smooth: stem branched: root-leaves stalked, ovate: stem-leaves sessile, sub-sagittate: flowers small, white, densely corymbose. Perennial: flowers in April and May: grows in pastures, in Oxfordshire and Gloucestershire: rare. *Eng. Bot.* vol. xxxiii. pl. 2354. *Eng. Fl.* vol. iii. p. 172. 972.

3. **T. alpes'tre.** L. *Alpine Shepherd's-purse.* Pouch obcordate, abrupt, with a prominent style; stem-leaves sagittate; stems simple. —— *Smooth* and glaucous: stems about six inches high, leafy: root-leaves ovate, in dense tufts: flowers small, white, with slightly notched petals. Perennial: flowers in June and July: grows in mountainous pastures, in the north of England: rare. Glen Islay, Clova, Forfarshire. *Eng. Bot.* vol. ii. pl. 81. *Eng. Fl.* vol. iii. p. 173. 973.

9. CAPSEL'LA. De Cand. SHEPHERD'S-PURSE.

Calyx of 4 ovate, concave sepals. Petals ovate, entire, equal. Filaments capillary; anthers cordate. Germen obcordate; style short; stigma obtuse. Pouch obcordate, laterally compressed, the valves navicular. Seeds ovate, several in each cell.— Name, diminutive of *Capsa*, a box. 351.

1. **C. Bur'sa-pasto'ris.** L. De C. *Common Shepherd's-purse.* Pouch obcordate, somewhat triangular; root-leaves pinnatifid, hairy.—— *Stem* branched, about a foot high; flowers small, white, corymbose. Annual: flowers from March to November: grows in cultivated ground and by road-sides: common. *Thlaspi B.*, Linn. *Eng. Bot.* vol. xxi. pl. 1485. *Eng. Fl.* vol. iii. p. 173. 974.

10. TEESDA'LIA. Br. TEESDALIA.

Calyx of 4 ovate, concave, nearly equal, spreading sepals. Petals obovate, undivided, spreading, 2 generally much larger. Filaments cylindrical, incurved, shorter than the corolla, each bearing an ovate scale on the inner side; anthers of 2 round lobes. Germen roundish, 2-lobed; stigma globular, sessile. Pouch compressed, roundish, concave on one side, bordered and cleft at the top, 2-celled; the valves boat-like, with dilated keels; partition lanceolate, narrow, contrary to the greater diameter of the pouch. Seeds 2 in each cell, roundish, compressed.—Named after Mr. *Teesdale*, an English botanist. 352.

1. **T. nudicau'lis.** Br. *Naked-stalked Teesdalia.* Root-leaves pinnatifid; petals unequal.——*Stems* several, the central one straight and leafless: flowers white. Annual: flowers in May and June: grows in dry pastures and gravelly places: very common in many

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parts of Scotland. *Iberis n. Eng. Bot.* vol. v. pl. 327. *Eng. Fl.* vol. iii. p. 170. 975.

11. IBE'RIS. Linn. CANDY-TUFT.

Calyx of 4 ovate, concave, equal, spreading sepals. Petals obovate, undivided, unequal, with short claws. Filaments subulate, about the length of the calyx; anthers roundish. Germen round, compressed, notched; style very short; stigma obtuse. Pouch ovate, compressed, bordered, 2-celled, cleft into 2 acute lobes; valves boat-shaped, with a dilated pointed keel; partitions membranous, as wide as the valves. Seeds 1 in each cell, ovate.—Named from *Iberia*, or Spain. 353.

1. **I. ama'ra.** L. *Bitter Candy-tuft.* Stem herbaceous; leaves lanceolate, acute, partly crenate; flowers in oblong clusters.——*Smooth:* stems branched, leafy: flowers white. Annual: flowers in July: grows in corn-fields, but is not indigenous: rare. About Henley in Oxfordshire, and Wallingford in Berkshire. *Eng. Bot.* vol. i. pl. 52. *Eng. Fl.* vol. iii. p. 181. 976.

12. COCHLEA'RIA. Linn. SCURVY-GRASS.

Calyx of 4 ovate, concave, spreading sepals. Petals obovate, undivided, twice the length of the calyx, with short claws. Filaments subulate, incurved, as long as the calyx; anthers roundish. Germen roundish; style very short, permanent; stigma obtuse. Pouch globose, ovate, or elliptical, turgid, wrinkled, veiny, 2-celled; valves with a prominent dorsal nerve; partition round or elliptical, membranous. Seeds several in each cell, roundish.—Named from *cochlear*, a spoon. 354.

1. **C. officina'lis.** L. *Common Scurvy-grass.* Root-leaves roundish, reniform or cordate, stalked; stem-leaves oblong, sessile, somewhat sinuated; pouch globular.——*Smooth* and shining stem, angular, much branched, decumbent: flowers white, in numerous corymbose clusters. A variety occurs on elevated mountains, differing chiefly in its small size: *C. groenlandica.* Annual: flowers in May: grows abundantly on the sea-coast, and along rivers near the sea; also in rocky places of the high mountains of Scotland and Wales. *Eng. Bot.* vol. viii. pl. 551. *Eng. Fl.* vol. iii. p. 175. 977.

2. **C. An'glica.** L. *English Scurvy-grass.* Root-leaves ovate or oblong, entire, stalked; stem-leaves sessile, lanceolate, toothed; pouch elliptical, strongly reticulated with veins.——*The* principal difference between this and the last is in the form of the pouch. Annual: grows in muddy places on the sea-shore, and along rivers near the mouth: frequent in England. *Eng. Bot.* vol. viii. pl. 552. *Eng. Fl.* vol. iii. p. 176. 978.

3. **C. Da'nica.** L. *Danish Scurvy-grass.* Leaves all triangular and stalked; pouch elliptical.——*Stems* three or four inches long, spreading or prostrate: flowers white. Annual: flowers in May and June: grows on the sea-coast: frequent. *Eng. Bot.* vol. x. pl. 696. *Eng. Fl.* vol. iii. p. 177. 979.

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13. ARMORA'CIA. Rupp. HORSE-RADISH.

Calyx of 4 concave, spreading sepals. Petals obovate, undivided, with short claws. Filaments subulate, as long as the calyx; anthers roundish. Germen roundish; style very short, permanent; stigma obtuse. Pouch globose, turgid, 2-celled; valves without a nerve. Seeds several in each cell.—Name from *Armorica*, Brittany. 355.

1. A. rustica'na. Baumg. *Common Horse-radish.* Root-leaves oblong, crenate; stem-leaves lanceolate, cut.——*Root* long, cylindrical: stem two feet high, erect: flowers white. The root is pungent, and used as a condiment. Perennial: flowers in May: grows in waste ground, but is probably nowhere indigenous. *Cochlearia Armoracia*, L. *Eng. Bot.* vol. xxxiii. pl. 2323. *Eng. Fl.* vol. iii. p. 178. 980.

14. SENEBIE'RA. De Cand. WART-CRESS.

Calyx of 4 ovate, concave, spreading sepals. Petals ovate, undivided. Filaments subulate, as long as the calyx; anthers roundish, 2-lobed. Germen roundish, or 2-lobed, compressed. Style very short; stigma obtuse. Pouch roundish, compressed, 2-lobed, 2-celled, not bursting. A solitary roundish seed in each cell.—Name in honour of M. *Senebier*, of Geneva, an eminent botanist. 356.

1. S. Coro'nopus. De. C. *Swine's-cress. Common Wart-cress.* Pouch undivided, crested with little sharp points; style prominent, leaves pinnatifid, subdivided. ——*Root* tapering: stems prostrate, branched, leafy: leaves deeply divided, smooth: flowers white, in dense corymbs. Annual: flowers from June to September: grows in waste ground and by way-sides: not uncommon in England, but rare in Scotland. *Coronopus Ruellii. Eng. Bot.* vol. xxiv. pl. 1660. *Eng. Fl.* vol. iii. p. 179. 981.

2. S. di'dyma. L. De C. *Less Wart-cress.* Pouch cleft, of 2 round wrinkled lobes: style very short; leaves pinnatifid, partly crenate.——*Root* fibrous, small: stems procumbent, about a foot long, branched: leaves smooth, flat: flowers small, white, with 2 or 4 stamens only. Annual: flowers in July: grows in waste ground in Derbyshire and Cornwall, and in Ireland. *Eng. Bot.* vol. iv. pl. 248: *Lepidium didymum. Coronopus d.*, Sm. *Eng. Fl.* vol. iii. p. 180. 982.

15. CRAM'BE. Gærtn. SEA-KALE.

Calyx of 4 oblong, concave, spreading sepals. Petals large, obtuse, broad, spreading. Filaments subulate, the 4 longest with a sharp lateral tooth; anthers oblong. Germen oblong; style none; stigma obtuse. Pouch finally leathery, of 2 joints, each 1-celled, not bursting, the lower abortive, the upper globular and deciduous. Seed solitary, globular.—Name, κραμβος, of the Greeks. 357.

1. C. mari'tima. L. *Sea-kale.* Leaves roundish, sinuated,

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toothed, glaucous, smooth.——*Root* large and fleshy; stems two feet high, branched, spreading, smooth and glaucous: leaves stalked, leathery: flowers large, white, in terminal clusters. The young leaves are boiled as cabbage. Perennial: flowers in May and June: grows in sand on the sea-coast: not common. *Eng. Bot.* vol. xxiii. pl. 924. *Eng. Fl.* vol. iii. p. 184. 983.

16. CAKI'LE. Gærtn. SEA-ROCKET.

Calyx of 4 erect, oblong, deciduous sepals, 2 opposite ones protuberant at the base. Petals obovate, obtuse, spreading, their claws as long as the calyx. Filaments subulate, simple; anthers oblong, cleft at the base. Germen oblong; style none; stigma obtuse. Pouch of 2 joints, angular, compressed, the lower often abortive, the upper oblong, with a tapering point, deciduous, each 1-celled, not bursting. Seeds 1 in each cell, elliptical.—Name, an old Arabic word. 358.

1. C. mari'tima. Scop. *Sea-rocket.* Joints of the pouch 2-edged, the upper with two teeth at the base; leaves fleshy, pinnatifid, obtuse. ——*The* whole plant smooth and glaucous: stem a foot high, much branched: leaves scattered: flowers large, densely corymbose: petals lilac. Annual: flowers from June to September: grows on the sea-shore, in sand: common. *Eng. Bot.* vol. iv. pl. 231: *Bunias Cakile. Eng. Fl.* vol. iii. p. 183. 984.

SILIQUOSA.

17. DENTA'RIA. Linn. CORALWORT.

Calyx of 4 oblong, erect sepals. Petals obovate, obtuse, horizontal, with erect claws, shorter than the calyx. Filaments subulate, as long as the calyx; anthers sagittate, erect. Germen oblong; style short and thick; stigma obtuse. Pod sessile, lanceolate, compressed, tapering upwards; valves flat, without ribs, narrower than the partitions. Seeds ovate, not bordered, inserted alternately in a single row, by dilated and winged stalks.—Named from *dens* a tooth, the root having projecting angles resembling teeth. 359.

1. D. bulbi'fera. L. *Bulbiferous Coralwort.* Lower leaves pinnatifid, upper simple, with axillar bulbs.——*Stem* erect, leafy, two feet high: leaves alternate, bright-green: flowers purple, corymbose. Perennial: flowers in April and May: grows in moist shady places in England: rare. *Eng. Bot.* vol. v. pl. 309. *Eng. Fl.* vol. iii. p. 186. 985.

18. CARDAMI'NE. Linn. CARDAMINE.

Calyx of 4 oblong, blunt, slightly spreading sepals, 2 of them protuberant at the base. Petals obovate, undivided, tapering into short claws. Filaments subulate, the two shorter with a gland at the base; anthers small, cordate, acute, recurved.

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Germen linear, slender; style very short; stigma obtuse. Pod erect, linear, compressed; valves flat, without ribs, scarcely narrower than the bordered partition. Seeds ovate, not bordered, inserted alternately in a single row, by short and slender stalks.—Name from καρδια, the heart, and δαμαω, to strengthen. 360.

1. C. impa'tiens. L. *Narrow-leaved Cardamine.* Leaves pinnate, with lanceolate leaflets; stipules fringed.——*About* a foot high, flowers minute, white. Annual: flowers in May and June: grows in mountainous meadows, by the sides of streams: rare. *Eng. Bot.* vol. ii. pl. 80. *Eng. Fl.* vol. iii. p. 187. 986.

2. C. hirsu'ta. L. *Hairy-Cardamine.* Leaves pinnate, without stipules; leaflets stalked, roundish.——*From* three inches to a foot high, more or less hairy: flowers small, white, corymbose. Annual: flowers from March to July: grows in loose soil, in shady places: common. *Eng. Bot.* vol. vii. pl. 492. *Eng. Fl.* vol. iii. p. 198. *C. flexuosa,* With., *C. sylvatica,* Link., is only a larger variety. 987.

3. C. praten'sis. L. *Common Cardamine. Cuckoo-flower.* Leaves pinnate, without stipules; leaflets of the radical ones roundish, toothed; those of the stem-leaves lanceolate, entire; petals with a tooth on the claw.——*About* a foot high: flowers large, in corymbs, pale-purple, lilac or white. Perennial: flowers in May: grows in moist meadows and watery places: common. *Eng. Bot.* vol. xi. pl. 776. *Eng. Fl.* vol. iii. p. 189. 988.

4. C. ama'ra. L. *Bitter,* or *Large-flowered Cardamine.* Leaves pinnate, without stipules; leaflets of the lower more roundish, of the rest angular or toothed; stem creeping at the base.——*Stems* from one to two feet high: flowers large, white. Perennial: flowers in April and May: grows in wet meadows: frequent. *Eng. Bot.* vol. xi. pl. 776. *Eng. Fl.* vol. iii. p. 189. 989.

19. A'RABIS. Linn. WALL-CRESS.

Calyx of 4 oblong, converging, erect, deciduous sepals, two opposite ones somewhat larger, and protuberant at the base. Petals oblong, undivided, spreading, tapering into broadish claws, hardly so long as the calyx. Filaments filiform, erect, generally with 4 glands at their base externally; anthers cordate. Germen linear; style very short; stigma obtuse. Pod linear, compressed; its valves nearly flat, ribbed or veined, slightly undulated by the seeds; partition linear, membranous. Seeds in 1 row, oval or round, compressed.—So named because originally an Arabian genus. 361.

1. A. stric'ta. Huds. *Bristol Rock-cress.* Leaves toothed, obtuse, bristly; those of the root somewhat lyrate; stem hairy; calyx smooth. ——*Stem* from three to six feet high, round, leafy: flowers few, corymbose, erect, cream-coloured. Perennial: flowers in May: grows in rocky places, about Bristol: rare. *Eng. Bot.* vol. ix. pl. 614. *Eng. Fl.* vol. iii. p. 210. 990.

2. A. petræ'a. De C. *Alpine Rock-cress.* Root-leaves lyrate, smooth or with scattered hairs; stem-leaves lanceolate, entire, scattered; petals obovate, spreading.——*Stem* from three to ten inches

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high, ascending: root-leaves in tufts: flowers small, white. Perennial: flowers in July: grows in the fissures of rocks on high mountains in Wales and Scotland: frequent. *Eng. Bot.* vol. vii. pl. 409: *A. hispida. Eng. Fl.* vol. iii. p. 211. 991.

3. **A. hirsu'ta.** L. Br. *Hairy Wall-cress.* Leaves all bristly, toothed, those of the stem semi-amplexicaul; pods erect.——*Stems* about a foot high, erect, stiff, leafy, covered with spreading hairs: flowers small, white. Perennial: flowers in May: grows on dry rocks, gravelly banks, and walls: frequent. *Eng. Bot.* vol. ix. pl. 587. *Eng. Fl.* vol. iii. p. 213. 992.

4. **A. cilia'ta.** Br. *Fringed Rock-cress.* Leaves somewhat toothed, oval, glabrous, fringed, those from the root nearly sessile, obtuse, those of the stem semi-amplexicaul; stem unbranched; pods nearly erect.——*From* three to six inches high, with white flowers. Biennial: flowers in July: found at Rinville, Cunnamara, and on rocks in Glen Esk. *Eng. Bot.* pl. 1746. *Eng. Fl.* vol. iii. p. 212. 993.

5. **A. Turri'ta.** L. *Tower-cress.* Leaves toothed, amplexicaul; pods linear, flat, recurved in one direction; bracts leafy.——*About* a foot high: leaves cordate at the base, with short, bristly hairs, the uppermost becoming oblong bracts: flowers pale-yellow: pods thickened at the edges. Biennial: flowers in May: grows on old walls; Cambridge and Oxford, but is not indigenous. *Eng. Bot.* vol. iii. pl. 178. *Eng. Fl.* vol. iii. p. 214. 994.

20. TURRITIS. Linn. TOWER-MUSTARD.

Calyx of 4 oblong, converging, erect, deciduous sepals, two opposite ones slightly protuberant at the base. Petals obovate, undivided, erect. Filaments filiform, erect; anthers oblong. Germen linear, as long as the petals; style very short; stigma obtuse. Pod linear, compressed, very long, its valves straight, flat, with a prominent keel. Seeds very numerous, arranged in 2 rows in each cell, crowded, oval, compressed, slightly bordered.—Name from *turris*, a tower, which the plant is supposed to resemble. 362.

1. **T. gla'bra.** L. *Smooth Tower-Mustard.* Root-leaves toothed, rough, the rest entire, clasping the stem, smooth.——*Stem* from two to three feet high, erect, simple, smooth: root-leaves oblong, nearly lyrate: flowers numerous, corymbose, pale-yellow. Annual: flowers in May and June: grows on banks and by road-sides in England: not common. *Eng. Bot.* vol. xi. pl. 777. *Eng. Fl.* vol. iii. p. 215. 995.

21. NASTURTIUM. Br. CRESS.

Calyx of 4 oblong, obtuse, spreading, deciduous sepals. Petals obovate, undivided, spreading, with short claws. Filaments subulate, the two shorter each with a gland at the base internally; anthers somewhat cordate. Germen cylindrical; style erect, short, cylindrical; stigma obtuse, notched. Pod nearly cylindrical, shortish; its valves concave, without ribs or keel. Seeds roundish, flattened, irregularly arranged on slender stalks.—Name from *nasus torsus*, a convulsed or distorted nose. 363.

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1. **N. officina'le.** Br. *Common Water-cress.* Leaves pinnate, with roundish, cordate, waved leaflets.——*Stems* spreading, generally floating, branched, angular, leafy, smooth: leaves deep-green, or tinged with brown: flowers white. Perennial: flowers in June and July: grows in rivulets, clear ditches, and ponds: common. *Eng. Bot.* vol. xii. pl. 855: *Sisymbrium Nasturtium.* L. *Eng. Fl.* vol. iii. p. 192. 996.

2. **N. sylves'tre.** L. Br. *Creeping Yellow-cress.* Leaves pinnate, with elliptical, deeply serrate leaflets; root creeping.——*Stems* erect, a foot high, angular, furrowed, roughish: flowers numerous, small, gold-yellow, in terminal clusters. Perennial: flowers from June to September: grows in wet meadows and watery places: not common. *Eng. Bot.* vol. xxxiii. pl. 2324: *Sisymbrium sylvestre.* L. *Eng. Fl.* vol. iii. p. 193. 997.

3. **N. terres'tre.** L. Br. *Annual Yellow-cress.* Leaves pinnatifid, unequally toothed; root tapering; petals not longer than the calyx.——*Stem* a foot high, branched: flowers very small, pale-yellow. Annual: flowers from June to September: grows in watery places: frequent. *Eng. Bot.* vol. xxv. pl. 1747: *Sisymbrium terrestre. Eng. Fl.* vol. iii. p. 194. 998.

4. **N. amphi'bium.** *Amphibious Yellow-cress.* Leaves oblong, pinnatifid, or serrate; roots fibrous; petals longer than the calyx. ——*Stem* two or three feet high, branched: flowers small: bright-yellow. Perennial: flowers from June to September: grows in watery places: frequent. *Eng. Bot.* vol. xxvi. pl. 1840: *Sisymbrium amphibium. Eng. Fl.* vol. iii. p. 195. 999.

22. SISYM'BRIUM. Linn. SISYMBRIUM.

Calyx of 4 oblong, concave, spreading, deciduous sepals. Petals oblong, obtuse, with claws nearly the length of the calyx. Filaments filiform, erect; anthers cordate. Germen linear, sessile, slender; style very short; stigma knobbed, notched. Pod linear, slightly angular; valves linear, concave, waved; partition narrow, membranous. Seeds numerous, small, oblong, arranged in a single row.—Name used by the ancients. 364.

1. **S. officina'le.** L. *Common Hedge-Mustard.* Pods downy, pressed close to the stalk; leaves runcinate, hairy; stem rough with deflexed bristles.——*From* one to two feet high, branched: leaves lyrate: flowers pale-yellow, small, corymbose. Warm and acid to the taste. Infusion of it is said to be good for hoarseness, and ulcers of the throat. Annual: flowers in June and July: grows among rubbish, and by roads and hedges: common. *Eng. Bot.* vol. xi. pl. 735: *Erysimum officinale.* L. *Eng. Fl.* vol. iii. p. 196. 1000.

2. **S. I'rio.** L. *London Rocket.* Leaves runcinate, toothed, smooth; stem smooth; pods erect.——*About* two feet high, smooth: flowers yellow, small. Annual: flowers in July and August: grows in waste ground and among rubbish: rare. About London, Berwick, and Dublin: said to have covered the ground after "the great fire" of London. *Eng. Bot.* vol. xxiii. pl. 1631. *Eng. Fl.* vol. iii. p. 197. 1001.

3. **S. so'phia.** L. *Flix-weed.* Leaves doubly pinnatifid, a little

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hairy; petals smaller than the calyx.——*Stem* slender, about two feet high: flowers small, greenish-yellow. Annual: flowers from June to September: grows among rubbish and in waste ground: frequent. *Eng. Bot.* vol. xiv. pl. 963. 1002.

4. **S. Thalia'num.** L. Hook. *Common Thale-cress.* Leaves hairy, toothed; root-leaves stalked, oblong, the rest sessile.——*About* a foot high, branched: flowers small, white, corymbose. Annual: flowers in April: grows on walls, and dry sandy ground: common. *Arabis Th.* L. Sm. *Eng. Bot.* vol. xiii. pl. 901. *Eng. Fl.* vol. iii. p. 209. 1003.

23. ALLIA'RIA. Adans. GARLICK-MUSTARD.

Calyx of 4 oblong, concave, slightly spreading sepals, equal at the base. Petals oblong, obtuse, with claws nearly as long as the calyx. Filaments subulate, erect, with a gland on each side between the longer ones; anthers oblong. Germen oblong, 4-sided; style very short; stigma entire. Pod slender, 4-sided; valves concave, 1-nerved. Seeds striated, their stalks flattened, winged.—Name from *Allium*, garlick, of which the leaves have the odour. 365.

1. **A. officina'lis.** De C. *Garlick Hedge Mustard. Jack-by-the-hedge. Sauce-alone.* Leaves cordate, broadly toothed, stalked.——*Stem* from one to three feet high: flowers numerous, white. When bruised, it emits a smell like garlick: it is bitter and acrid, and has been used as salad. Annual: flowers in May: grows among rubbish, and by hedges and walls: common. *Eng. Bot.* vol. xii. pl. 796. *Eng. Fl.* vol. iii. p. 201. 1004.

24. BARBARE'A. Br. WINTER-CRESS.

Calyx of 4 oblong, concave, erect, deciduous sepals. Petals obovate, undivided, their claws nearly as long as the calyx. Filaments subulate, erect, with a gland on each side within the shorter ones. Germen oblong, 4-sided; style short, cylindrical; stigma obtuse. Pod linear, 4-sided, slightly compressed; valves concave, keeled, even; partition membranous, thick-edged. Seeds oval, flattish, arranged alternately in one row. —Name from St. *Barbara.* 366.

1. **B. vulga'ris.** Br. *Bitter Winter-cress. Yellow Rocket.* Lower leaves lyrate, with the terminal lobe roundish; upper leaves obovate, toothed.——*Stem* about two feet high, stout, angular, furrowed: flowers small, bright-yellow, in corymbose clusters. Bitter and sharp to the taste, used sometimes as a salad. Perennial: flowers from May to August: grows on the banks of ditches and rivers, and about hedges and walls: common. *Eng. Bot.* vol. vii. pl. 443: *Erysimum Barbarea.* L. *Eng. Fl.* vol. iii. p. 198. 1005.

2. **B. præ'cox.** Br. *Early Winter-cress.* Lower leaves lyrate, upper deeply pinnatifid, with linear, entire segments.——*From* one to two feet high: flowers yellow, very small. Biennial: flowers from April to October: grows in waste places in various parts of England, but is not indigenous. *Eng. Bot.* vol. xvi. pl. 1129; *Erysimum præcox. Eng. Fl.* vol. iii. p. 199. 1006.

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25. ERY'SIMUM. Linn. TREACLE MUSTARD.

Calyx of 4 oblong, concave, erect, deciduous sepals. Petals obovate, obtuse, spreading, their claws erect, and nearly as long as the calyx. Filaments filiform, erect, with a gland on each side within the shorter ones; anthers oblong. Germen oblong, 4-sided; style very short; stigma small, knobbed, notched. Pod 4-sided, slender; valves concave, keeled, right-angled; partition membranous. Seeds oval, arranged in one row.—Named from ερυω, to cure. 367.

1. E. cheiranthoi'des. L. *Worm-seed Treacle Mustard.* Leaves lanceolate, obscurely toothed, covered with forked bristles; pods nearly erect, on the horizontal stalks; stigma nearly sessile.—*Stem* erect, branched, two feet high: flowers numerous, small, yellow. The seeds have been used for destroying worms in children. Annual: flowers in July: grows in corn-fields: frequent. *Eng. Bot.* vol. xiv. pl. 942. *Eng. Fl.* vol. iii. p. 201. 1007.

2. E. orienta'le. Br. *Hare's-ear Treacle Mustard.* Leaves elliptical, cordate at the base, clasping at the stem; root-leaves obovate, all smooth, glaucous, entire.——*Stem* from one to two feet high: flowers cream-coloured, in a loose corymbose cluster. Annual: flowers in June: grows in fields and on rocks near the sea, in the south-east of England: rare. *Eng. Bot.* vol. xxvi. pl. 1804: *Brassica orientalis.* L. *Eng. Fl.* vol. iii. p. 202. 1008.

26. HES'PERIS. Linn. DAME'S-VIOLET.

Calyx of 4 oblong, obtuse, deciduous sepals, lying over each other at the upper part; 2 opposite ones protuberant at the base. Petals obovate, obtuse or slightly notched, obliquely spreading; claws linear, erect, channelled, as long as the calyx. Filaments filiform, erect, simple, the two shorter with a gland at their base internally; anthers linear. Germen 4-sided, linear, as long as the calyx; style very short; stigma of 2 erect, obtuse, downy lobes. Pod linear, 4-sided, striated, with protuberances raised by the seeds; partitions membranous. Seeds oblong, pendulous, in one row.—Named from εσπερος, the evening. 368.

1. H. matrona'lis. L. *Dame's-violet.* Leaves ovato-lanceolate, toothed; stem erect, slightly branched; pods nearly erect, smooth.——*From* one to two feet high: flowers pale-purplish, sweet-scented, especially in the evening. Perennial: flowers in May and June: grows on banks and in bushy places: not common. *Eng. Bot.* vol. xi. pl. 731: *Hesperis inodora. Eng. Fl.* vol. iii. p. 207. 1009.

27. CHEIRAN'THUS. Linn. WALL-FLOWER.

Calyx of 4 oblong, concave, erect, deciduous sepals, 2 opposite ones protuberant at the base. Petals obovate, spreading with erect claws, as long as the calyx. Filaments subulate, the 2 outer embraced at the base by a gland; anthers sagittate, acute, of two linear lobes. Germen linear, compressed, as long as the stamens; style short; stigma more or less 2-lobed. Pod linear, compressed, 2-edged; valves straight; partition mem-

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branous. Seeds oval, compressed, arranged alternately in one row.—Name derived from an Arabic word, applied to another plant; or from χειρ, the hand, and ἀνθος, a flower. 369.

1. Ch. Chei'ri. L. *Common Wall-flower.* Stem shrubby at the base; branches angular; leaves lanceolate, acute, hoary beneath. ——*Stem* bushy, from one to two feet high; flowers large, with rich yellow petals. Perennial: flowers in May and June: grows on old buildings and high walls: common. *Eng. Bot.* vol. xxvii. pl. 1934: *C. fruticulosus. Eng. Fl.* vol. iii. p. 203. The Wall-flower of the garden, with large, deeply coloured petals, is of the same species. 1010.

28. MATTHI'OLA. Br. STOCK.

Calyx of 4 linear, oblong, concave, erect, converging, deciduous sepals, 2 opposite ones protuberant at the base. Petals obovate, spreading, with erect claws, as long as the calyx. Filaments subulate, the 2 outer much shorter, and embraced at the base by a gland; anthers oblong, nearly erect, with 2 linear lobes. Germen oblong, somewhat compressed, shorter than the stamens; style short and thick; stigma 2-lobed. Pod linear, compressed, convex, or keeled; valves straight; partition membranous. Seeds round, compressed, having a membranous border, and arranged alternately in a single row. Named after P. A. *Matthioli*, an Italian physician. 370.

1. M. inca'na. L. Br. *Hoary Shrubby Stock.* Stem shrubby, erect, branched; leaves lanceolate, obtuse, hoary with dense hairs. ——*About* two feet high: flowers large, corymbose, with pale-purple petals. Flowers in May and June: grows on rocks, near Hastings, Sussex, but is not there wild. *Eng. Bot.* vol. xxvii. pl. 1935: *Cheiranthus incanus.* L. *Eng. Fl.* vol. iii. p. 205. 1011.

2. M. sinua'ta. L. Br. *Great Sea Stock.* Stem herbaceous, with spreading branches; leaves sinuate, obtuse, downy; those of the branches undivided; pods rough, with prominent glands.——*The* whole plant covered with dense starry hairs and short glandular prickles: stem two feet high: flowers purple. Biennial: flowers from May to September: grows on sandy sea-shores in Wales and Cornwall: rare. *Eng. Bot.* vol. vii. pl. 462: *Cheiranthus sinuatus.* L. *Eng. Fl.* vol. iii. p. 206. 1012.

29. BRAS'SICA. Linn. CABBAGE.

Calyx of 4 oblong, concave sepals, protuberant and close below, spreading above. Petals obovate, spreading, with erect, channelled claws. Filaments subulate, erect; a gland at the inside of each of the outer, and one at the outside of each of the longer pairs; anthers oblong. Germen cylindrical, as long as the stamens; style tapering; stigma knobbed. Pod nearly cylindrical, beaked, the style 2-celled, with a cell in the beak; valves concave; partitions membranous. Seeds nearly globular, arranged in a single row; the cell of the beak also sometimes containing one or more seeds.—Name Celtic, *bresic*, a cabbage. 371.

1. B. Na'pus. L. *Rape. Cole-seed.* Root fusiform; leaves glabrous,

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upper ones lanceolate, cordate at the base and amplexicaul; lower ones lyrate, toothed.——*Stem* erect, striated, branched, two feet high, leaves glaucous: flowers bright-yellow. This species is cultivated for its seeds, which afford a large quantity of expressed oil. The refuse is employed as manure. Biennial: flowers in May: grows in corn-fields and waste ground, but is not indigenous: common. *Eng. Bot.* vol. xxx. pl. 2146. *Eng. Fl.* vol. iii. p. 217. 1013.

2. **B. Ra'pa.** L. *Common Turnip.* Root fleshy, globose, turbinate, or oblong; root-leaves lyrate, rough; stem-leaves nearly entire, glabrous. Flowers pale-yellow. Biennial: flowers in May: grows by the edges of fields: common, but not truly wild. *Eng. Bot.* vol. xxxi. pl. 2176. *Eng. Fl.* vol. iii. p. 217. 1014.

3. **B. campes'tris.** L. *Common Wild Navew.* Root tapering, slender; leaves glaucous, cordate, taper-pointed, embracing the stem; the lower ones lyrate, toothed.——*Stem* erect, slender, two feet high: flowers large, pale-yellow. Annual: flowers in June and July: grows in corn-fields: common. Supposed to be the origin of the Swedish turnip. *Eng. Bot.* vol. xxxii. pl. 2234. *Eng. Fl.* vol. iii. p. 218. 1015.

4. **B. olera'cea.** L. *Sea-Kale*, or *Cabbage.* Root stem-like, cylindrical, fleshy; leaves glaucous, waved, lobed, smooth.——*From* one to two feet high: flowers pale-yellow, large. Biennial: flowers in May and June: grows on maritime cliffs: not common. From this species are derived all our numerous varieties of Cabbage. *Eng. Bot.* vol. ix. pl. 637. *Eng. Fl.* vol. iii. p. 219. 1016.

5. **B. Monen'sis.** L. Br. *Isle of Man Cabbage.* Leaves glaucous, nearly smooth, deeply pinnatifid, with oblong, unequally toothed lobes; pods 4-cornered; beak lodging 2 or 3 seeds.——*Root* tapering, woody: stem simple, smooth, about a foot high: flowers pale-yellow, veined with purple, large. Perennial: flowers in June and July: grows on the sandy sea-coast, in the Isle of Man; Anglesey; near Liverpool; in Bute and Arran, &c. *Eng. Bot.* vol. xiv. pl. 962: *Sisymbrium Monense.* L. *Eng. Fl.* vol. iii. p. 220. 1017.

30. SINA'PIS. Linn. MUSTARD.

Calyx of 4 oblong, straight, spreading, deciduous sepals. Petals obovate, rounded, entire, spreading; with linear, erect, claws. Filaments subulate, erect; a gland at the inside of each of the outer, and one at the outside of each of the longer pairs; anthers oblong. Germen cylindrical; style very short; stigma knobbed. Pod nearly cylindrical, beaked; valves undulated; partition membranous; the beak also often contains a seed. Seeds nearly globular, arranged in one row.—Name, σίναπι, used by the Greeks. 372.

1. **S. arven'sis.** L. *Field Mustard*, or *Charlock.* Pods with many angles, knotty, longer than their subulate beak; leaves toothed, partly ovate, partly lyrate.——*Root* small, tapering, hard: stem from one to two feet, rough with reflexed bristles, as are the leaves: flowers greenish-yellow. Annual: flowers through the summer and autumn: grows in corn-fields, abundantly. *Eng. Bot.* vol. xxv. pl. 1784. *Eng. Fl.* vol. iii. p. 221. 1018.

2. **S. al'ba.** L. *White Mustard.* Pods bristly, shorter than their

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flat 2-edged beak; leaves lyrate.——*Stem* rough, about a foot and a half high: flowers large, yellow. Eaten when young as salad. Annual: flowers in July: grows in waste places and corn-fields: frequent. *Eng. Bot.* vol. xxiv. pl. 1677. *Eng. Fl.* vol. iii. p. 222. 1019.

3. **S. ni'gra.** L. *Common Mustard.* Pods closely pressed to the stalk, 4-cornered, smooth, with a short beak; lower leaves lyrate, upper narrow-lanceolate, entire, smooth; stem from three to four feet high; flowers yellow.——*Annual:* flowers in June and July: grows in waste places and fields: frequent. The common mustard used at table is obtained from the seeds. It is also employed as a stimulant to the soles of the feet in fevers, and to various parts of the skin as a rubefacient. *Eng. Bot.* vol. xiv. pl. 969. *Eng. Fl.* vol. iii. p. 222. 1020.

31. DIPLOTAXIS. De Cand. ROCK.

Calyx of 4 oblong, straight, spreading, deciduous sepals. Petals obovate, entire, spreading, with linear erect claws. Filaments subulate, erect; a gland at the inside of each of the outer, and one at the outside of each of the longer pairs; anthers oblong. Germen cylindrical; style short; stigma knobbed. Pod nearly cylindrical, beaked, the valves slightly convex, carinate. Seeds oval, arranged in 2 rows.—Name from διπλος, double, and ταξις, series. 373.

1. **D. tenuifo'lia.** L. De C. *Narrow-leaved Wall Mustard.* Pods erect, linear, compressed, slightly beaked, on spreading stalks; upper leaves lanceolate, undivided, lower once or twice pinnatifid; stem smooth.——*Stem* erect, much branched, two feet high: flowers large, pale-yellow. The whole plant is acrid, and has a disagreeable smell. Perennial: flowers from June to October: grows on heaps of rubbish and old walls, about towns: not common. *Sisymbrium t.* L. *Eng. Bot.* vol. viii. pl. 525. *Eng. Fl.* vol. iii. p. 223. 1021.

2. **D. mura'lis.** L. De C. *Sand Mustard.* Pods ascending, linear, compressed, slightly beaked, on spreading stalks; leaves sinuate; stem covered with reflexed bristles.——*Stem* about eight inches high: flowers greenish-yellow. Annual: flowers in August and September: grows in sandy ground, in the Isle of Thanet, and near Bristol. *Eng. Bot.* vol. xvi. pl. 1090. *Eng. Fl.* vol. iii. p. 224. 1022.

32. RA'PHANUS. Linn. RADISH.

Calyx of 4 oblong, parallel, erect, deciduous leaves, 2 of them prominent at the base. Petals spreading, with lin[illegible] claws. Filaments subulate, erect; a gland withi[illegible] shorter, and one at the outside of each pair [illegible] thers oblong. Germen cylindrical, tape[illegible] stigma knobbed, small. Pod oblong. [illegible] larly tumid, as if jointed, leathe[illegible] Seeds globular, arranged in [illegible] quickly, and φαινομαι, t[illegible]

1. **R. mari'timus.** [illegible] rowed; root-leave[illegible] branched: stem[illegible] pale-yellow.

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near the sea: not common. Sussex, Galloway, Ayrshire, Bute; abundant on the western coasts of the Outer Hebrides. *Eng. Bot.* vol. xxiii. pl. 1643. *Eng. Fl.* vol. iii. p. 227. Perhaps only a variety of the next. 1023.

2. R. Raphanis'trum. L. *Field Radish. Charlock.* Pods 1-celled, jointed, striated; leaves lyrate.——*The* whole plant rough with bristles: stem from one to two feet high: flowers pale-yellow. Annual: flowers in the summer months: grows in corn-fields, abundantly. *Eng. Bot.* vol. xii. pl. 856. *Eng. Fl.* vol. iii. p. 226. 1024.

Class XVI. MONADELPHIA.

Plants bearing Flowers, the Filaments of whose Stamens are joined together in one set.

Order I. PENTANDRIA. *Five Stamens.*

1. ERO'DIUM. *Style* one. *Fruit* beaked, formed of 5 *capsules*, each tipped with a spiral *awn*, bearded on the inside.

(*Linum. Cl. V. Geranium pusillum. Monadelphia Decandria.*)

Order II. DECANDRIA. *Ten Stamens.*

2. GERA'NIUM. *Style* one. *Calyx* of 5 sepals. *Corolla* of 5 petals. *Fruit* beaked, of 5 aggregate *capsules*, each with a long naked *awn*.

(*Oxalis. Spartium. Genista. Anthyllis. Ulex. Ononis.*)

Order III. POLYANDRIA. *Numerous Stamens.*

3. ALTHÆ'A. *Styles* numerous. *Ca'yx* with a 6- or 9-cleft involucre. *Capsules* numerous, circularly arranged, 1-seeded.
4. MAL'VA. *Styles* numerous. *Calyx* with a 3-leaved involucre. (*apsules* numerous, circularly arranged, 1-seeded.
5. LAVATE'RA. *Styles* numerous. *Calyx* 5-cleft, with a 3-lobed involucre. *Capsules* numerous, circularly arranged, 1-seeded.

MONADELPHIA.—PENTANDRIA.

1. ERO'DIUM. L. Herit. STORK'S-BILL.

Calyx inferior, of 5 ovate, acute, permanent sepals. Petals 5, obovate, spreading, rather longer than the calyx. Nectaries, 5 glands, alternate with the petals. Filaments ten, subulate, slightly united at the base, 5 of them bearing anthers, 5 alternate ones shorter and abortive; anthers oblong. Germen roundish, with 5 furrows; style subulate, erect, longer than the stamens, permanent; stigmas oblong, reflexed. Capsules 5, obovate, aggregate, each tipped with a long, linear, erect,

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pointed, stiff awn, hairy at the inside, and finally spirally twisted, adhering by its point to the top of the style. Seeds one in each capsule, oblong.—Named from ερωδιος, a stork or heron, whose beak the fruit resembles. 375.

1. E. cicuta'rium. Sm. *Hemlock Stork's-bill.* Flowers in stalked umbels; leaves pinnate, with sessile pinnatifid leaflets; stems procumbent, hairy.——*The* whole plant is hairy and somewhat clammy, with a disagreeable smell: petals rose-coloured, frequently white. Annual: flowers from June to September: grows in sandy places, especially near the sea: frequent. *Eng. Bot.* vol. xxv. pl. 1768. *Eng. Fl.* vol. iii. p. 229. 1025.

2. E. moscha'tum. Sm. *Musky Stork's-bill.* Flowers in stalked umbels; leaves pinnate, with nearly sessile, elliptical, unequally cut leaflets; stems procumbent, hairy; perfect stamens toothed at the base.——*More* hairy and clammy than the preceding, and exhaling a musky smell: petals rose-coloured. Annual: flowers in June and July: grows in hilly pastures in England: rare. *Eng. Bot.* vol. xiii. pl. 902. *Eng. Fl.* vol. iii. p. 230. 1026.

3. E. mari'timum. Sm. *Sea Stork's-bill.* Stalks few-flowered; leaves simple, cordate, cut, crenate, rough; stems depressed, hairy. ——*Petals* minute, pale-red. Perennial: flowers from May to September: grows on the sandy coasts of the south and west of England, in Glenluce, and in Ireland: rare. *Eng. Bot.* vol. ix. pl. 646. *Eng. Fl.* vol. iii. p. 231. 1027.

DECANDRIA.

2. GERA'NIUM. Linn. CRANE'S-BILL.

Calyx inferior, permanent, of 5 ovate sepals. Petals 5, cuneate, rounded, or obcordate. Nectaries, 5 glands, alternate with the petals. Filaments 10, subulate, united at the base; anthers elliptical, 2-celled. Germen roundish, 5-lobed. Style subulate, erect, permanent; stigmas cylindrical, recurved. Capsules 5, ovato-oblong, aggregate, each tipped with a linear, erect awn, which is smooth on the inside, and finally recurved. Seeds ovato-oblong, one in each capsule.—Named from γερανος, a crane, the fruit resembling the bill of that bird. 376.

* *Peduncles 2-flowered.*

a. Calyx rounded, with nearly equal divisions.

1. G. phæ'um. L. *Dusky Crane's-bill.* Leaves palmate, with serrate lobes; calyx slightly awned: capsules keeled, hairy below, wrinkled at the top; stamens hairy.——*Stems* two feet high, erect, panicled, hairy: petals dark brownish-red. Perennial: flowers in May and June: grows in woods and thickets: rare, and perhaps not indigenous. *Eng. Bot.* vol. v. pl. 322. *Eng. Fl.* vol. iii. p. 232. 1028.

2. G. sylva'ticum. L. *Wood Crane's-bill.* Leaves with 7 cut

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and serrate lobes; stems erect, corymbose, rough, with deflexed hairs; capsules keeled, hairy, even.——*Stems* two or three feet high: petals entire or slightly notched, light-purple, with darker veins: flowers much smaller than those of the next species. Perennial: flowers in June and July: grows in woods and thickets by rivers: frequent. *Eng. Bot.* vol. ii. pl. 121. *Eng. Fl.* vol. iii. p. 234. 1029.

3. **G. praten'se.** L. *Meadow Crane's-bill.* Leaves with 7 deep segments, which are pinnatifidly cut and deeply serrate; stems panicled, with short glandule-tipped hairs; capsules keeled, hairy, transversely wrinkled at the top; seeds minutely granulated.——*Stems* two or three feet high: petals thrice the length of the calyx, bright purplish-blue with white veins, their claws densely fringed with white hairs. Perennial: flowers in June and July: grows in pastures, woods, and thickets: common in many parts. *Eng. Bot.* vol. vi. pl. 404. *Eng. Fl.* vol. iii. p. 235. 1030.

4. **G. Pyrena'icum.** L. *Perennial Dove's-foot Crane's-bill.* Leaves roundish-reniform, with 7 deep, obtuse, 3-cleft lobes; sepals rather obtuse, hairy; petals cleft, twice the length of the calyx; capsules keeled, even, sparsely downy; seeds even.——*Stems* from six inches to three feet high, light-green, sparsely covered with short deflexed hairs: petals 5-veined at the base, reddish-purple, the claw minute, with a tuft of hairs at each side. Perennial: flowers in June, July, and August: grows in meadows and pastures: not common. *Eng. Bot.* vol. iv. pl. 405. *Eng Fl.* vol. iii. p. 239. 1031.

5. **G. rotundifo'lium.** L. *Round-leaved Crane's-bill.* Leaves reniform, 7-lobed, cut, downy; petals entire, of the same length as the calyx; capsules hairy, even; seeds reticulated.——*The* whole plant peculiarly soft, with fine downy leaves, all opposite: petals light-crimson. Annual: flowers in June and July: grows in dry gravelly soil: not common. *Eng. Bot.* vol. iii. pl. 157. *Eng. Fl.* vol. iii. p. 241. 1032.

6. **G. mol'le.** L. *Common Dove's-foot Crane's-bill.* Peduncles alternate, opposite to the leaves, which are roundish-reniform, 9-lobed, the lobes variously divided at the end, downy; sepals 5-nerved, hairy, tipped; petals cleft; capsules keeled, transversely wrinkled; seeds minutely granulated.——*The* whole plant very soft, with fine down: petals scarcely one-half longer than the calyx, cleft one-third down, rose-coloured, 5-nerved at the base, their claws with a tuft of hairs on each side. Annual: flowers from the middle of spring to the end of autumn: grows in waste and cultivated ground, pastures, meadows, by way-sides, on wall-tops, &c.: very common. *Eng. Bot.* vol. xi. pl. 778. *Eng. Fl.* vol. iii. p. 237. 1033.

7. **G. pusil'lum.** L. *Small-flowered Crane's-bill.* Peduncles axillar, the upper opposite to the leaves, which are roundish-reniform, 7-lobed, the lobes variously divided at the end, downy; sepals 1-nerved, hairy, callous-tipped; capsules keeled, even, with close-pressed hairs; seeds minutely dotted; anthers only 5.——*Stems* numerous, spreading or prostrate, bright-red: petals rose-coloured, a little longer than the calyx, notched, with long, tapering claws, destitute of hairs at the base. Annual: flowers from the beginning of June to September: grows in dry pastures and gravelly soils: not uncommon in

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England; rare in Scotland. *Eng. Bot.* vol. vi. pl. 385. *Eng. Fl.* vol. iii. p. 238. 1034.

b. Calyx with very unequal segments, prominently angled.

8. G. **Robertia'num.** L. *Herb Robert. Stinking Crane's-bill.* Leaves ternate, or pedate, with 5 divisions, pinnatifid, the segments shortly awn-tipped; stems panicled, with sparse, unequal, flexuous hairs; calyx 10-angled, awned, capsules wrinkled in their upper half; seeds even.——*Stem* red, sending out numerous branches at the base: leaves tinged with red: sepals lanceolate: petals twice the length of the calyx, oblong, bright rose-red with 3 white veins. Annual: flowers from the beginning of May to the end of October: grows in waste ground, woods, by walls, among stones and debris of rocks: common. *Eng. Bot.* vol. xxi. pl. 1486. *Eng. Fl.* vol. iii. p. 235. 1035.

9. G. **dissec'tum.** L. *Jagged-leaved Crane's-bill.* Leaves deeply divided into 5 tripartite segments, sparsely downy; stems somewhat forked, with deflexed hairs; calyx 5-angled, with lanceolate, awned sepals; capsules keeled, even, downy; seeds prominently reticulated. ——*Stems* spreading: 2 outer calyx-leaves 5-nerved, the next 4-nerved, the 2 inner 3-nerved: petals rose-coloured, a little longer than the calyx, narrow, obcordate, with 3 transparent veins, sparsely fringed on the claws. Annual: flowers from May to October: grows in waste and cultivated ground: common. *Eng. Bot.* vol. xi. pl. 753. *Eng. Fl.* vol. iii. p. 241. 1036.

10. G. **lu'cidum.** L. *Shining Crane's-bill.* Peduncles longer than the leaves, which are reniform, 5-lobed, the middle lobe trifid; calyx 5-keeled, 10-angled at the base, transversely plaited; capsules with 8 longitudinal ridges, slightly hairy; seeds even.——*Stems* spreading, weak, smooth, glossy, deep-red: 2 outer sepals with 2 large and 1 small rib each, the next with 1 large and 1 small, the 2 inner much narrower with 1 small rib each, the 3 outer alone transversely plaited: petals oblong, pale rose-coloured, with linear claws, which are destitute of hairs. Annual: flowers from May to September: grows in rocky places, and among debris: not common. *Eng. Bot.* vol. ii. pl. 76. *Eng Fl.* vol. iii. p. 236. 1037.

11. G. **columbi'num.** L. *Long-stalked Crane's-bill.* Peduncles shorter than their divisions, together thrice as long as the leaves, which are reniform, very deeply divided into 5 3-cleft segments, and sparsely covered with close-pressed hairs; petals notched, a little longer than the calyx, which is prominently 5-angled, with cordate, awned divisions; capsules smooth and even; seeds reticulated.——*Stems* procumbent, slender, with minute deflexed hairs: 2 outer sepals 5-nerved, each with 2 angles, the third 4-nerved forming an angle by one of its sides, the rest 3-nerved: petals oblong, purplish rose-coloured. Annual: flowers in June and July: grows in gravelly soil: not common. *Eng. Bot.* vol. iv. pl. 259. *Eng. Fl.* vol. iii. p. 241. 1038.

** *Peduncles 1-flowered.*

12. G. **sangui'neum.** L. *Bloody Crane's-bill.* Leaves roundish, with 7 deeply separated, 3-cleft lobes; sepals hairy, awned; petals obcordate, twice the length of the calyx; capsules even, sparsely hairy; seeds granulated.——*Root* large, knotty. Stems numerous, from one to two feet high, pale-green, covered with spreading hairs:

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sepals 3-ribbed: petals bright-red, with 5 transparent veins, their claws very short. with 2 copious tufts of white hairs. Perennial: flowers in June, July, and August: grows in hilly situations, and on the grassy summits of maritime cliffs: not common. *Eng. Bot.* vol. iv. pl. 272. *Eng. Fl.* vol. iii. p. 232. 1039.

POLYANDRIA.

3. ALTHÆ'A. Linn. MARSH-MALLOW.

Calyx inferior, permanent, divided into 5 segments, and having an involucre of 6 or 9 leaves. Petals 5, obcordate, flat, with broad claws attached to the bottom of the tube formed by the stamens. Filaments numerous, capillary, united below into a tube; anthers nearly reniform. Germen round, depressed; style cylindrical, as long as the tube of the filaments; stigmas about 20, setate, nearly as long as the style. Capsules about 20, compressed, arranged in a circle round the columnar receptacle, each 2-valved and 1 celled. Seeds solitary, reniform, compressed.—Name from αλθω, to cure. 377.

1. **A. officina'lis.** L. *Common Marsh-Mallow.* Leaves simple, very soft and downy, slightly 5- or 3-lobed.——*Stems* erect, three feet high, simple, round, downy: flowers in axillar panicles: petals pale rose-colour. The whole plant, especially the root, yields by decoction a mild mucilage, used as a demulcent. Perennial: flowers from July to September: grows in salt marshes: not common. *Eng. Bot.* vol. iii. pl. 147. *Eng. Fl.* vol. iii. p. 244. 1040.

2. **A. hirsu'ta.** L. *Rough-leaved Marsh-Mallow.* Leaves simple, rough with hairs, the lower obtusely, the upper acutely lobed, crenate; stem rough.——*Annual:* flowers in June and July: found in a field between Cobham and Cuxton, Kent, but is not indigenous. *Eng. Bot. Suppl.* pl. 2674. *Brit. Fl.* 4th ed. p. 262. 1041.

4. MAL'VA. Linn. MALLOW.

Calyx inferior, permanent, divided half-way into 5 broad segments, and having a 3-leaved involucre. Petals 5, obcordate, abrupt, flat, their claws attached to the tube formed by the stamens. Filaments numerous, capillary, united below into a tube; anthers reniform. Germen round, depressed; style cylindrical; stigmas numerous, setate, nearly as long as the style. Capsules numerous, compressed, arranged in a circle round the columnar receptacle, each 2-valved and 1-celled. Seed solitary, reniform.—Name altered from μαλαχη, soft, or emollient. 378.

1. **M. sylves'tris.** L. *Common Mallow.* Stem erect; leaves with five or seven somewhat acute lobes; leaf-stalks and flower-stalks hairy. ——*Stem* much branched, from two to three feet high: leaves folded, soft and downy: flowers numerous: petals purplish-red, deeply notched. Perennial: flowers from June to September: grows about hedges and

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road-sides: common. *Eng. Bot.* vol. x. pl. 671. *Eng. Fl.* vol. iii. p. 245. 1042.

2. **M. moscha'ta.** L. *Musk Mallow.* Stem erect; root-leaves reniform, cut; those of the stem deeply divided into 5 or 7 pinnatifid, jagged segments; calyx hairy, its outer leaves narrow lanceolate. ——*Stems* about two feet high, little branched, rough: flowers on long axillar simple stalks: petals large, rose-coloured. Perennial: flowers in July and August: grows in pastures and by way-sides: frequent. *Eng. Bot.* vol. xi. pl. 754. *Eng. Fl.* vol. iii. p. 247. 1043.

3. **M. rotundifo'lia.** L. *Dwarf Mallow.* Stem prostrate; leaves roundish-cordate, obtusely 5-lobed; fruit-stalks bent downwards.—— *Stems* numerous, lying flat on the ground: flowers pale-lilac. A variety with whitish flowers, whose petals are not longer than the calyx. Perennial: flowers from June to September: grows in waste ground and by way-sides: frequent. *Eng. Bot.* vol. xvi. pl. 1092, and vol. iv. pl. 241. *Eng. Fl.* vol. iii. p. 246. 1044.

5. LAVATE'RA. Linn. TREE-MALLOW.

Calyx superior, permanent, divided half-way into 5 acute lobes, and having a 3-lobed involucre. Petals 5, obcordate, abrupt, flat, attached by their narrow claws to the tube formed by the stamens. Filaments numerous, capillary, united below into a cylindrical tube; anthers reniform. Germen round, depressed; style cylindrical, with a conical permanent base; stigmas from 7 to 14, setate, as long as the style. Capsules from 7 to 14, arranged in a circle round the columnar receptacle, each 2-valved and 1-celled. Seeds solitary, reniform.— Named after the two *Lavaters.* 379.

1. **L. arbo'rea.** L. *Sea Tree-Mallow.* Stem woody; leaves downy, plaited, with 7 angles; flowers on simple, aggregated, axillar stalks. ——*Stem* from three to five feet high, erect: flowers large: petals purplish rose-colour, darker at the base. Biennial: flowers from July to October: grows on rocks along the sea-shore: rare. *Eng. Bot.* vol. xxvi. pl. 1841. *Eng. Fl.* vol. iii. p. 248. 1045.

CLASS XVII. DIADELPHIA.

Filaments united, forming 2 sets.

Order I. HEXANDRIA. *Six Stamens.*

1. CORYDA'LIS. *Calyx* of 2 sepals. *Petals* 4, the upper spurred at the base. Each filament bearing 3 anthers. *Pod* 2-valved, compressed, many-seeded.
2. FUMA'RIA. *Calyx* of 2 sepals. *Petals* 4, the upper spurred at the base. Each filament bearing 3 anthers. *Nut* indehiscent, 1-seeded.

Order II. OCTANDRIA. *Eight Stamens.*

3. POLY'GALA. *Calyx* of 5 sepals, the two inner much larger coloured. *Capsule* 2-celled, 2-valved.

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Order III. DECANDRIA. *Ten Stamens.*

* *Stamens all united at the base, forming a tube which is generally split along its upper side.*

4. GENIS'TA. *Calyx* 2-lipped, the upper lip with 2 teeth, the lower with 3. *Style* subulate, ascending.
5. SAROTHAM'NUS. *Calyx* 2-lipped, the upper lip with 2 teeth, the lower with 3. *Style* long, enlarged upwards, channelled, curved.
6. U'LEX. *Calyx* of 2 sepals, nearly as long as the legume.
7. ANTHYL'LIS. *Calyx* inflated, 5-toothed, inclosing the legume.
8. ONO'NIS. *Calyx* with 5 deep segments. *Standard* striated. *Legume* turgid, sessile.

** *Stamens nine, united at the base, one free; stigma or style downy.*

9. O'ROBUS. *Style* linear, nearly cylindrical. *Stigma* downy, linear, extending along the upper side of the style.
10. LA'THYRUS. *Style* flattened, dilated upwards. *Stigma* downy, extending along the dilated part of the style.
11. VI'CIA. *Style* bearded in front, below the stigma.
12. ER'VUM. *Stigma* knobbed, downy all over.

*** *Stamens, nine united, one free; stigma not downy; legume 2-celled.*

13. ASTRA'GALUS. *Legume* tumid, with 2 longitudinal cells. *Keel* obtuse.
14. OXY'TROPIS. *Legume* tumid, with 2 longitudinal cells. *Keel* pointed.

**** *Stamens, nine united, one free; stigma not downy; legume 1-celled, jointed.*

15. HEDY'SARUM. *Legume* of 1 or more compressed single-seeded joints. *Keel* very obtuse.
16. ORNI'THOPUS. *Legume* compressed, curved, of many close, single-seeded joints, whose sides are equal.
17. HIPPOCRE'PIS. *Legume* compressed, partly membranous, incurved, with many curved joints; one of the sutures with several notches.

***** *Stamens, nine united, one free; stigma not downy; legume 1-celled, not jointed.*

18. MEDICA'GO. *Legume* compressed, somewhat membranous, spirally twisted.
19. MELILO'TUS. *Legume* few-seeded, longer than the calyx. *Petals* distinct, deciduous.
20. TRIFO'LIUM. *Legume* hardly longer than the calyx, with one seed, seldom more, deciduous, indehiscent. *Petals* united.
21. LO'TUS. *Legume* cylindrical, straight, spongy within. *Wings* cohering at their upper edges. *Filaments* dilated upwards.

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DIADELPHIA.—HEXANDRIA.

1. CORYDA'LIS. De Cand. CORYDALIS.

Calyx inferior, of 2 opposite, erect, acute, small, membranous, deciduous sepals. Corolla of 4 petals, more or less united, one of them gibbous or spurred at the base. Filaments 2, flat, each bearing 3 roundish anthers. Germen oblong, compressed; stigma 2-lobed. Pod 2-valved, compressed, many-seeded; seeds crested.—Name from κορυδαλις, the Greek name for the Fumitory. 380.

1. C. so'lida. L. Hook. *Solid-rooted Corydalis.* Stem generally simple, erect; leaves twice ternate; bracts palmate, longer than each flower-stalk.——*Root* round, fleshy: cluster terminal, solitary, erect, of about twelve pale-purple flowers. Perennial: flowers in April and May: grows in woods and thickets in England, but is not indigenous: rare. *Eng. Bot.* vol. xxi. pl. 1471. *Eng. Fl.* vol. iii. p. 253. 1046.

2. C. lu'tea. Lindl. *Yellow Corydalis.* Pods nearly cylindrical, shorter than their stalks; stem erect, angular; bracts minute; spur short, rounded.——*Stem* about a foot high, erect, 3-cornered: leaves thrice ternate, with cuneiform leaflets: flowers pale-yellow, with deeper coloured lips. Perennial: flowers in May: grows on old walls in Derbyshire and Yorkshire: rare, but is not truly wild. *Eng. Bot.* vol. ix. pl. 588. *Eng. Fl.* vol. iii. p. 253. 1047.

3. C. clavicula'ta. L. De Cand. *White Climbing Corydalis.* Pods lanceolate, undulated; stem climbing; leaf-stalks ending in branched tendrils.——*Stem* branched, slender, from two to three feet high: clusters opposite to each leaf: flowers yellowish-white. Annual: flowers in June and July: grows in bushy places: frequent. *Eng. Bot.* vol. ii. pl. 103. *Eng. Fl.* vol. iii. p. 254. 1048.

2. FUMA'RIA. Linn. FUMITORY.

Calyx inferior, of 2 opposite, erect, acute, small, membranous, deciduous sepals. Corolla of 4 petals, more or less united, one of them gibbous or spurred at the base; 2 inner petals linear, slightly connected by their tips. Filaments 2, flat, shorter than the corolla; anthers roundish, 3 at the end of each filament. Germen roundish, compressed, pointed; stigma compressed, of 2 flat lobes. Pod roundish, 1-celled, 1-seeded: seeds not crested.—Name from *fumus*, smoke. 381.

1. F. capreola'ta. L. *Ramping Fumitory.* Raceme rather loose; stem climbing by means of the twisted leaf-stalks; leaves thrice ternate, with cuneiform lobed leaflets.——*From* two to four feet high, greatly resembling the common fumitory. Annual: flowers in summer and autumn: grows in cultivated fields: common. *Eng. Bot.* vol. xiv. pl. 943. *Eng. Fl.* vol. iii. p. 256. *Eng. Bot. Suppl.* pl. 2677. 1049.

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2. **F. officina'lis.** L. *Common Fumitory.* Raceme rather loose; stem branched, spreading; leaves twice pinnate, with their segments lanceolate.——*Stem* from three to six inches high: clusters opposite to the leaves, stalked: flowers rose-coloured, dark-red at their summit: spur very short, rounded. Annual: flowers from May to November: grows in loose soil: common. *Eng. Bot.* vol. ix. pl. 589. *Eng. Fl.* vol. iii. p. 255. 1050.

3. **F. parviflo'ra.** Lam. *Least-flowered Fumitory.* Raceme loose; stem spreading; leaves twice pinnate, with their segments linear and channelled; sepals very minute, roundish, dentate.——*Smaller* than the last: flowers pale-red, with purple tips. Annual: flowers in August and September: grows in fields: rare. Two varieties: *a.* flowers rose-coloured, leaves light-green; *b.* flowers white, with dark-purple tips, leaves glaucous. *Eng. Bot.* vol. ix. pl. 590. *Eng. Fl.* vol. iii. p. 256. 1051.

4. **F. micran'tha.** Lag. *Small-flowered Fumitory.* Raceme loose; stem spreading; leaves twice pinnate, with their segments linear and grooved; sepals orbicular, subcordate, nicito-dentate, much broader than the corolla.——*Annual:* flowers from June to October: grows in fields and pastures in various parts of England and Scotland: not common. *Eng. Bot. Suppl.* 2876. 1052.

OCTANDRIA.

3. POLY'GALA. Linn. MILKWORT.

Calyx inferior, of 5 sepals; the 3 outer smaller, ovate. Petals varying in number, united to the filaments by their claws; limb of the upper deeply divided; the lower keel-shaped, generally crowned with a crested appendage. Filaments united at the bottom, divided above into two sets; anthers 8, 1-celled, tubular. Germen roundish; style clavate, straight; stigma 2-lipped. Capsule round or obcordate, compressed, 2-valved, 2-celled. Seeds 1 in each cell, oval, downy, crested.—Named from πολυ, much, and γαλα, milk. 382.

1. **P. vulga'ris.** L. *Common Milkwort.* Flowers in a terminal raceme; 2 inner sepals about equal to the corolla; stems herbaceous, simple, ascending, leaves narrow, lanceolate.——*From* three to six inches long: flowers blue, sometimes pink or white. Perennial: flowers in June and July: grows in dry pastures: common. *Eng. Bot.* vol. ii. pl. 76. *Eng. Fl.* vol. iii. p. 258. 1053.

DECANDRIA.

4. GENISTA. Linn. GREEN-WEED.

Calyx inferior, 2-lipped; the upper lip with 2, the lower with 3 teeth. Corolla of 5 petals; standard oblong; wings oblong,

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spreading; keel of 2 lanceolate, obtuse petals, cohering below. Filaments 10, united below into a tube; anthers roundish. Stigma oblong. Legume compressed, oblong, 1-celled, with 2 concave valves, little longer than the calyx. Seeds several, roundish.—Name from *gen*, a shrub, Celtic. 383.

1. **G. tincto'ria.** L. *Dyer's Green-weed. Woad-waxen.* Leaves lanceolate, smooth; branches round, striated, erect; legumes smooth, nearly cylindrical.——*A small* shrub, with numerous straight branches: flowers on short and axillar stalks, crowded about the tops of the branches: petals pale-yellow. A good yellow colour is obtained from the whole plant. Flowers in July and August: grows in thickets and pastures: frequent in England: rare elsewhere. *Eng. Bot.* vol. i. pl. 44. *Eng. Fl.* vol. iii. p. 263. 1054.

2. **G. pilo'sa.** L. *Hairy Green-weed.* Leaves lanceolate, broader towards the end, hairy beneath; stem tuberculated, prostrate; calyx and flower-stalks covered with silky hairs.——*A small* shrub, with much branched stems, lying flat: flowers axillar and solitary, crowded about the top of the branches: petals bright-yellow: legume oblong, hairy. Flowers in May, and again in September: grows on dry elevated heaths and pastures, in the south of England and in Wales: rare. *Eng. Bot.* vol. iii. pl. 208. *Eng. Fl.* vol. iii. p. 263. 1055.

3. **G. An'glica.** L. *Needle Green-weed. Petty Whin.* Leaves ovate, smooth; thorns simple, none on the flowering branches.——*A small* shrub, with ascending stems, about a foot long: flowers solitary, small, pale-yellow, the standard deeper. Flowers in May and June: grows on heathy grounds: not uncommon. *Eng. Bot.* vol. ii. pl. 132. *Eng. Fl.* vol. iii. p. 264. 1056.

5. SAROTHAM'NUS. Wimm. BROOM.

Calyx inferior, 2-lipped; the upper lip with 2, the lower with 3 teeth. Standard large, broadly ovate, reflexed; wings oblong, spreading. Keel of 2 lanceolate, obtuse petals, at length deflexed. Filaments 10, united below into a tube, which is slit on the upper side. Style spirally curved, thickened upwards. Legume compressed, many-seeded, much longer than the calyx. —Name from σαρόω, to sweep, and θαμνος, a shrub. 384.

* *Branches thornless.*

1. **S. sco'parius.** L. Wimm. *Common Broom.* Leaves ternate or solitary; branches angular; legumes much compressed, hairy at the margin.——*A bushy* shrub with long, straight branches, having prominent narrow angles: flowers axillar, solitary, or in pairs, of a rich golden yellow, sometimes tinged with red. Decoction of the young twigs is diuretic, and has been used in dropsies. Flowers in May and June: grows in thickets and dry pastures: common. *Eng. Bot.* vol. xix. pl. 1339. *Spartium scoparium. Eng. Fl.* vol. iii. p. 261. 1057.

6. U'LEX. Linn. FURZE.

Calyx inferior, of 2 ovate, concave, equal, coloured, permanent sepals; the upper with 2 small teeth, the lower with 3.

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Corolla of 5 petals; standard ovate, cleft, ascending; wings oblong, obtuse; keel of 2 straight, obtuse petals, cohering at their lower edges. Filaments 10, all united at the base, one of them separate for more than half its length; anthers roundish, 2-lobed. Germen oblong, nearly cylindrical, hairy. Style subulate, curved upwards; stigma small, obtuse. Legume oblong, turgid, straight, little longer than the calyx, 1-celled, 2-valved; the valves concave, hard, and elastic. Seeds polished, roundish.—Name doubtful. 385.

1. **U. Europæ'us.** L. *Common Furze, Whin,* or *Gorse.* Teeth of the calyx minute, close together; bracts ovate, loose; branches erect. ——*A very* bushy shrub, from two to five feet high, beset with thorns: leaves small, subulate, thorn-tipped: flowers solitary or in pairs, bright-yellow: 2 minute, ovate, spreading bracts at the base of the calyx. When often cut or burned, the young shoots are usually soft and succulent, and are eaten by cattle. It has been used for fences. Flowers in May, occasionally at all seasons: grows in dry pastures and on heaths: common. *Eng. Bot.* vol. xi. pl. 742. *Eng. Fl.* vol. iii. p. 265. 1058.

2. **U. na'nus.** Forst. *Dwarf Furze.* Teeth of the calyx spreading; bracts minute, close-pressed; branches reclining.——*Half* the size of the last in all its parts, and apparently nothing but a slight variety of it. Flowers in autumn: grows on dry elevated heaths and pastures: frequent. *Eng. Bot.* vol. xi. pl. 743. *Eng. Fl.* vol. iii. p. 226. 1059.

7. ANTHYL'LIS. Linn. KIDNEY-VETCH.

Calyx inferior, ovate, inflated, woolly, with 5 small, unequal, marginal teeth, permanent. Corolla of 5 petals, with linear claws, as long as the calyx; standard longest, reflexed at the sides; wings semi-ovate, shorter, keel of 2 narrower petals, compressed, slightly cohering at the tips. Filaments 10, united into a cylinder, finally splitting along the upper edge, their extremities curved upwards; anthers small, roundish. Germen oblong; style subulate, ascending; stigma obtuse. Legume small, roundish, or oblong, inclosed in the inlarged calyx, 1-celled, 2-valved. Seeds 1 or 2, roundish.—Named from ανθος, a flower, and ιουλος, beard. 386.

1. **A. Vulnera'ria.** L. *Kidney-vetch. Ladies'-fingers.* Herbaceous; leaves pinnate, with a terminal leaflet; heads of flowers in pairs.——*Stems* about a foot high, ascending, round, hairy: leaves hairy beneath: flowers numerous: calyx pale, hairy: corolla yellow, sometimes red. Perennial: flowers from June to September: grows in dry pastures: frequent; abundant in those near the sea. *Eng. Bot.* vol. ii. pl. 104. *Eng. Fl.* vol. iii. p. 269. 1060.

8. ONO'NIS. Linn. REST-HARROW.

Calyx inferior, tubular, rather deeply divided into 5 linear, pointed segments, the lower longest, and lying under the keel. Corolla of 5 petals; standard largest, cordate, striated, keeled,

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and compressed at the back, the sides depressed; wings obovate, half the length of the standard; keel of 2 converging petals, pointed, a little longer than the wings. Filaments 10, united into a cylinder, which is split above; anthers roundish. Germen oblong; style cylindrical, ascending; stigma small, obtuse. Legume rhomboidal, turgid, sessile, scarcely longer than the calyx, 1-celled, 2-valved, the valves stiff and elastic. —Name from ονος, an ass. 387.

1. O. arven'sis. L. *Rest-harrow. Cammock.* Stem hairy; branches becoming at length thorny at the point; flowers mostly solitary; calyx shorter than the corolla; leaves ternate below, the rest simple, serrate, entire at the base.——*Root* woody, branched: flowers axillar, generally solitary, large, rose-coloured: pods 2 or 3-seeded. Perennial: flowers from June to September: grows in dry pastures and the edges of fields: common. *Eng. Bot.* vol. x. pl. 682. *Eng. Fl.* vol. iii. p. 267. 1061.

2. O. reclina'ta. L. *Small Spreading Rest-harrow.* Stem hairy; calyx as long as the corolla; leaves all stalked, ternate.——*Much* smaller than the last: stem herbaceous, spreading: pods many-seeded. Annual: flowers in July: on a steep bank by the sea near Sarbert, Galloway. Alderney. *Brit. Fl.* 4th ed. p. 268. *Eng. Bot. Suppl.* pl. 2838. 1062.

9. O'ROBUS. Linn. BUTTER-VETCH.

Calyx cup-shaped, unequal, with 5 acute segments, the 2 upper shorter and more distant, the lower one longest. Corolla of 5 petals; standard obcordate, reflexed at the sides, rather longer than the rest; wings obovate, ascending, approaching each other; keel rounded, pointed, of 2 united petals, with separate claws. Filaments 10, 9 united into a compressed tube, the other capillary; anthers small, roundish. Germen oblong, compressed. Style filiform, straight, ascending, channelled above; stigma longitudinal, linear, downy, extending along the upper side of the upper half of the style. Legume oblong or linear, somewhat cylindrical, pointed, ascending at the end, 1-celled, 2-valved. Seeds several, roundish.—Name from ορω to strengthen, and βους, an ox. 388.

1. O. tubero'sus. L. *Heath-pea. Common Bitter-vetch.* Leaves pinnate with elliptical leaflets; stipules semi-sagittate, toothed at the base; stem erect, simple, winged.——*Root* tuberous, creeping: stems about a foot high: flowers in long-stalked, axillar racemes, variegated with blue, purple, and crimson. The root is sweetish and astringent. Perennial: flowers in June and July; grows in heaths, and in woods and open pastures: common. *Eng. Bot.* vol. xvii. pl. 1153. *Eng. Fl.* vol. iii. p. 272. 1063.

2. O. ni'ger. L. *Black Bitter-vetch.* Leaves pinnate, with broadly oblong leaflets; stipules narrow-lanceolate, acute; stems branched, erect, angular.——*Root* creeping, woody: stems from one to two feet long: petals purple, variegated. Whole plant turns black in drying; hence its name. Perennial: flowers in June and July: found by Mr. T. Drummond in the Den of Airly, Forfarshire; and

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by Dr. Maclachlan, near Moy House, Inverness-shire. *Eng. Fl.* vol. iii. p. 270. 1064.

10. LA'THYRUS. Linn. VETCHLING.

Calyx cup-shaped, unequal, with 5 lanceolate segments, the 2 upper shorter, the lower one longest. Corolla of 5 petals; standard largest, obcordate, reflexed at the sides; wings oblong, obtuse, somewhat curved upwards, approaching each other; keel rounded, of 2 united petals, with separate claws. Filaments 10, 9 united into a compressed tube, open at the upper edge, the other capillary, separate; anthers small, roundish. Germen oblong, compressed; style ascending, flattened vertically, dilated upwards, acute at the end; stigma longitudinal, downy, running along the upper half of the style. Legume long, cylindrical or compressed, pointed, 1-celled, 2-valved. Seeds several, roundish.—Name, λαθυρος, used by Theophrastus. 389.

* *Flowers solitary.*

1. **L. A'phaca.** L. *Yellow Vetchling.* Tendrils without leaves; stipules cordato-sagittate. —— *Stems* procumbent or climbing by means of tendrils, each of which arises from between a pair of large stipules; flowers greenish-yellow. Annual: flowers from June to August: grows in the borders of sandy fields in England: rare. *Eng. Bot.* vol. xvii. pl. 1167. *Eng. Fl.* vol. iii. p. 274. 1065.

2. **L. Nisso'lia.** L. *Crimson Vetchling.* Leaves simple, without tendrils; stipules subulate.——*Stems* slender, with sessile lanceolate leaves, and crimson flowers. Annual: flowers in May: grows in the borders of fields in England: frequent. *Eng. Bot.* vol. ii. pl. 112. *Eng. Fl.* vol. iii. p. 275. 1066.

** *Flowers in pairs.*

3. **L. hirsu'tus.** L. *Rough-podded Vetchling.* Tendrils with 2 narrow lanceolate leaflets; legumes hairy; seeds rough.——*Stem* winged, slightly hirsute, climbing: flowers variegated, the standard crimson, the wings pale-blue, the keel white. Annual: flowers in July: grows in cultivated fields in England: rare. *Eng. Bot.* vol. xviii. pl. 1255. *Eng. Fl.* vol. iii. p. 275. 1067.

*** *Flowers numerous on each pedicel.*

4. **L. praten'sis.** L. *Yellow Meadow Vetchling.* Tendrils simple, each with 2 lanceolate leaflets.——*Stems* weak, branched, from one to two feet high: flowers yellow, 8 or 9 together, on long stalks. An excellent pasture plant. Perennial: flowers in July and August: grows in meadows and pastures: common. *Eng. Bot.* vol. x. pl. 670. *Eng. Fl.* vol. iii. p. 276. 1068.

5. **L. sylves'tris.** L. *Narrow-leaved Everlasting-pea.* Tendrils branched, each with 2 gladiate leaflets; stem winged.——*Stems* climbing, three or four feet long: flowers on axillar stalks: corolla variegated with pale-crimson, blue and green. Perennial: flowers in July and August: grows in thickets and hedges in England, very rare in Scotland. *Eng. Bot.* vol. xii. pl. 805. *Eng. Fl.* vol. iii. p. 277. 1069.

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6. **L. latifo'lius.** L. *Broad-leaved Everlasting-pea.* Tendrils branched, each with 2 elliptical leaflets; stem winged.——*Stem* climbing, three or four feet long: flowers large, rose-coloured. Perennial: flowers in July and August: grows in woods: rare, and apparently not indigenous. *Eng. Bot.* vol. xvi. pl. 1108. *Eng. Fl.* vol. iii. p. 277. 1070.

7. **L. palus'tris.** L. *Blue Marsh Vetchling.* Tendrils branched, each with several lanceolate segments; stipules lanceolate; stem winged.——*Flowers* variegated with blue and purple. Perennial: flowers in July and August: grows in wet meadows and thickets: rare. *Eng. Bot.* vol. iii. pl. 169. *Eng. Fl.* vol. iii. p. 278. 1071.

8. **L. mari'timus.** L. Big. *Sea-side Vetchling.* Tendrils with 3 or 4 pairs of elliptical leaflets; stipules sagittate, large; stem angled; peduncles many-flowered.——*Stems* procumbent, 4-cornered; tendrils branched: flowers purple, veined with crimson. Perennial: flowers in July: grows on pebbly beaches in several parts of the eastern and southern shores of England; Kerry; Unst, Shetland. *Pisum maritimum.* Linn. *Eng. Bot.* pl. 1046. 1072.

11. VI'CIA. Linn. VETCH.

Calyx tubular, unequal, with 5 acute segments, the 2 uppermost shorter. Corolla of 5 petals; standard largest, oval, ascending, the sides deflexed, the back somewhat keeled; wings oblong, approaching each other, shorter than the standard; keel rounded, compressed, of 2 united petals, with separate claws. Filaments 10; 9 united into a compressed tube, open at the upper edge, the other capillary, separate; anthers small, roundish. Germen oblong, compressed; style short, ascending at a right angle, cylindrical; stigma obtuse, with a tuft of hairs in front, below the summit. Legume long, compressed, pointed, 1-celled, with 2 leathery, stiffish valves. Seeds several, roundish.—Name, βικιον, in Greek. 390.

* *Pedicels long, many-flowered.*

1. **V. sylva'tica.** L. *Wood Vetch.* Leaflets elliptical; stipule: crescent-shaped, deeply toothed.——*Stems* numerous, climbing, 5 or 6 feet long: flowers numerous, in clusters, longer than the leaves: petals bluish-white, veined with blue. Perennial: flowers in July and August: grows in bushy places and hedges: frequent. *Eng. Bot.* vol. ii. pl. 79. *Eng. Fl.* vol. iii. p. 279. 1073.

2. **V. O'robus.** De C. *Wood Bitter-vetch.* Stems spreading, hairy, branched, leaves pinnate, with numerous lanceolate leaflets.——*Root* creeping, woody, tough, deeply fixed in the ground: stems numerous, from one to two feet long: petals cream-coloured, streaked and tipped with purple. Perennial: flowers in May and June: grows in mountainous woods and thickets: not common. *Eng. Bot.* vol. viii. pl. 518. *Eng. Fl.* vol. iii. p. 273. 1074.

3. **V. Crac'ca.** L. *Tufted Vetch.* Flowers in imbricated clusters; leaflets lanceolate, downy; stipules semi-sagittate, nearly entire.——*Stems* two or three feet long: flowers variegated with purple and blue. An excellent pasture plant. Perennial: flowers in July and August: grows in thickets, hedges, and pastures: common. *Eng. Bot.* vol. xvii. pl. 1168. *Eng. Fl.* vol. iii. p. 280. 1075.

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** *Flowers axillar, nearly sessile.*

4. V. sati'va. L. *Common Vetch.* Flowers nearly sessile, commonly in pairs, leaflets oblong, lower ones abrupt; stipules toothed, impressed with a dark spot; seeds smooth.——*Stems* procumbent or climbing, from two to three feet long: leaflets from 6 to 10: flowers variegated with crimson, blue, and white. Perennial: flowers in May and June: grows in corn-fields: frequent. *Eng. Bot.* vol. v. pl. 334. *Eng. Fl.* vol. iii. p. 281. 1076.

5. V. angustifo'lia. Roth. *Narrow-leaved Crimson Vetch.* Flowers solitary, nearly sessile; leaflets about 6, linear, lower ones obcordate; stipules impressed with a pale spot; seeds smooth.——*Flowers* crimson, white at the keel. This is probably a starved variety of the preceding. Annual: flowers in June: grows in dry pastures: frequent. *Eng. Fl.* vol. iii. p. 282. *Eng. Bot. Suppl.* pl. 2614. 1077.

6. V. lathyroi'des. L. *Spring Vetch.* Flowers solitary, nearly sessile; leaflets about 6, oblong, the lower ones obcordate; tendrils simple, shorter than the leaflets; seeds tuberculated.——*Stems* procumbent, three or four inches long: stipules semi-cordate, destitute of coloured mark: flowers small, light bluish-purple. Annual: flowers in April and May: grows in dry gravelly and sandy pastures: very common in Scotland. *Eng. Bot.* vol. i. pl. 30. *Eng. Fl.* vol. iii. p. 283. 1078.

7. V. lu'tea. L. *Rough-podded Yellow Vetch.* Flowers solitary, nearly sessile; legumes reflexed, hairy; stems spreading; stipules ovate, pointed, coloured; standard smooth.——*Stems* spreading on the ground, from one to two feet long: leaflets numerous, elliptical: tendrils long, branched: spot on the stipules red, generally enlarged: flowers pale-yellow, striped with gray. Perennial: flowers in August: grows in dry gravelly pastures: rare. *Eng. Bot.* vol. vii. pl. 481. *Eng. Fl.* vol. iii. p. 284. 1079.

8. V. laeviga'ta. Sm. *Smooth-podded Sea Vetch.* Flowers solitary, nearly sessile; legumes reflexed, smooth; stems ascending; stipules cleft, without spot; leaflets bluntish, smooth.——*Flowers* pale-blue or whitish: the whole plant smooth. Perennial: flowers in July and August: grew on the pebbly coast of Dorsetshire, but is now extinct. *Eng. Bot.* vol. vii. pl. 483. *Eng. Fl.* vol. iii. p. 285. 1080.

9. V. hy'brida. L. *Hairy-flowered Yellow Vetch.* Flowers solitary, nearly sessile; legumes reflexed, hairy; stems ascending; stipules ovate, unspotted; standard hairy.—— *Stem* from one to two feet long: flowers pale-yellow, with reddish stripes. Perennial: flowers in June and July: grows in thickets in the south of England; Glastonbury, Tor-hill, and near Lincoln. *Eng. Bot.* vol. vii. pl. 482. *Eng. Fl.* vol. iii. p. 285. 1081.

10. V. se'pium. L. *Common Bush Vetch.* Flowers about four together, in short axillar racemes; legumes erect, smooth; leaflets ovate, obtuse, becoming gradually smaller upwards on the leaf-stalk. ——*Stems* about two feet long: flowers bluish-purple: legumes blackish. Perennial: flowers in May and June: grows in bushy places, hedges, and pastures: common. *Eng. Bot.* vol. xxii. pl. 1515. *Eng. Fl.* vol. iii. p. 286. 1082.

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11. **V. bithy'nica.** L. *Rough-podded Purple Vetch.* Flowers commonly solitary, stalked; legumes erect, rough, with stiff hairs; leaflets four, lanceolate, minutely pointed; stipules semi-sagittate, fringed with teeth.——*Stems* about eighteen inches long, smooth, prostrate: standard purple: keel and wings white. Perennial: flowers in July and August: grows in bushy places and dry pastures in England: rare. *Eng. Bot.* vol. xxvi. pl. 1842. *Eng. Fl.* vol. iii. p. 287. 1083.

12. ER'VUM. Linn. TARE.

Calyx tubular, divided half-way into 5 lanceolate, long-pointed segments, shorter than the corolla, the lowermost rather longer. Corolla of 5 petals; standard largest, obovate, slightly reflexed; wings half as long, obtuse; keel shorter, rounded, of 2 united petals, with separate claws. Filaments 10; 9 united into a compressed tube, open along the upper edge; the other capillary, separate; anthers roundish. Germen oblong, compressed. Style cylindrical, ascending at a right angle; stigma knobbed, all over hairy. Legume oblong, compressed. Seeds from 2 to 4, roundish.—Name from the Celtic *erw*, a ploughed field. 391.

1. **E. hirsu'tum.** L. *Hairy Tare.* Clusters many-flowered; legumes hairy, 2-seeded; leaflets abrupt.——*Stem* two or three feet long, nearly smooth: flowers whitish or pale-blue. Annual: flowers in June and July: grows in fields and hedges: common. *Eng. Bot.* vol. xiv. pl. 970. *Eng. Fl.* vol. iii. p. 289. *Vicia hirsuta*, Koch. Hooker. 1084.

2. **E. tetrasper'mum.** L. *Smooth Tare.* Flowers in pairs; legumes smooth, 4-seeded; leaflets oblong, bluntish.——*Stem* two or three feet long, more or less hairy, as are the leaves: flowers pale-gray or bluish. Annual: flowers in June and July: grows in fields and hedges: not so common as the last. *Eng. Bot.* vol. xvii. pl. 1223. *Eng. Fl.* vol. iii. p. 228. *Vicia tetrasperma*, Lois. Hook. 1085.

13. ASTRA'GALUS. Linn. MILK-VETCH.

Calyx inferior, tubular, permanent, with 5 acute teeth, the lower gradually longer. Corolla of 5 petals; standard ovate, obtuse, erect, longer than the rest; wings oblong, shorter; keel as long as the wings, rounded in front, of 2 united petals, with separate claws. Filaments 10, 9 united into a compressed tube, open above, the other capillary, separate; anthers roundish. Germen oblong, compressed; style subulate, ascending; stigma obtuse. Legume tumid, with 2 longitudinal cells, formed by the inflexed lower suture. Seeds 1 or more, reniform.—Named αστραγαλος, the back-bone, in allusion to the knotted root of one species. 392.

1. **A. glycyphyl'los.** L. *Sweet Milk-vetch.* Stem prostrate; legumes obscurely 3-cornered, curved, smooth; leaves longer than the flower-stalks; leaflets oval.——*Stems* two or three feet long: nearly smooth: flowers pale-yellow, in ovate spikes, on short axillar

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stalks. Perennial: flowers in June: grows in woods, thickets, and pastures, in gravelly soil: frequent in England: rare in Scotland. *Eng. Bot.* vol. iii. pl. 203. *Eng. Fl.* vol. iii. p. 294. 1086.

2. **A. hypoglot'tis.** L. *Purple Mountain Milk-vetch.* Stem prostrate; flowers in roundish heads; legumes ovate, compressed, hairy: hooked at the point; leaflets obtuse.——*Stems* from two to six inches long: flowers purplish-blue, variegated with white, in stalked axillar heads. Perennial: flowers in June and July: grows in dry pastures: frequent: not uncommon in Scotland, near the sea. *Eng. Bot.* vol. iv. pl. 274. *Eng. Fl.* vol. iii. p. 294. 1087.

3. **A. alpi'nus.** L. Stems procumbent, branches and leaves downy; stipules ovate; flowers in a dense raceme, drooping; legumes stalked, pendulous, elliptical, attenuated at either end.——*Root* branched, slender: stems slender, branched, procumbent and smooth at the base: down of the branches and leaves adpressed: flowers 8 to 14, with the calyx green, the corolla white, tipped with light-purple. Perennial: flowers in July: discovered by Mr. Brand on a cliff near the head of Glen Dole, Clova, in 1831, and subsequently found by Dr. Balfour on Little Craigandal, Braemar. *Eng. Bot. Suppl.* pl. 2717. *Brit. Fl.* 4th ed. p. 272. 1088.

4. **A. campes'tris.** L. De C. *Yellowish Mountain Milk-vetch.* Stem none; flower-stalk ascending; legumes ovate, inflated, hairy, erect; leaflets lanceolate, acute, somewhat hairy.——*Flowers* yellowish, the keel and wings tinged with purple. Perennial: flowers in July: grows on high rocks in Scotland: very rare. Clova Mountains, Forfarshire. *Eng. Bot.* vol. xxxvi. pl. 2522. *Eng. Fl.* vol. iii. p. 296. 1089.

14. OXYTROPIS. De Cand. OXYTROPIS.

Calyx inferior, tubular, permanent, with 5 acute teeth. Corolla of 5 petals; standard ovate, carinate, reflexed at the sides; wings oblong, straight; keel of 2 united petals, with separate claws, and a very narrow ascending point. Filaments 10, some united, 1 free; anthers roundish. Germen oblong, compressed; style subulate, ascending; stigma obtuse. Legume oblong, tumid, with 2 longitudinal cells, formed by the inflexed lower suture. Seeds reniform.—Name from οξυς, sharp, and τροπις, keel. 393.

1. **O. Uralen'sis.** L. De C. *Hairy Oxytropis.* Stem none; flower-stalk erect, longer than the leaves; legumes oblong, pointed, hairy, erect; leaflets ovate, acute, covered with silky hairs.——*Flowers* bluish-purple, in round dense heads. Perennial: flowers in July: grows in dry mountain pastures in Scotland: rare. *Eng. Bot.* vol. vii. pl. 466. *Eng. Fl.* vol. iii. p. 295. 1090.

15. HEDY'SARUM. Linn. SAINT-FOIN.

Calyx inferior, tubular, divided half-way into 5 subulate, straight segments. Corolla of 5 petals; standard ovate, keeled at the back, slightly cleft, reflexed at the sides; wings oblong, straight, narrower than the other petals; keel of two united petals, with separate claws, compressed, broader in front, and very

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abrupt. Filaments 10, 9 united into a flattish tube, open above, the other subulate, separate, all bent upwards at the extremity; anthers roundish. Germen ovate or oblong, compressed; style subulate, bent like the stamens; stigma acute. Legume compressed, with 1 or more roundish joints, each joint 2-valved and 1-seeded. Seeds reniform.—Name doubtful. 394.

1. H. ono'brychis. L. *Common Saint-foin. Cock's-head.* Leaves pinnate, nearly smooth; legume 1-seeded, toothed at the margin and ribs; wings not longer than the calyx; stem elongated.——*Stem* two or three feet long: flowers crimson, in axillar clusters. Cultivated for feeding cattle. Perennial: flowers in June and July: grows in dry hilly pastures in England. *Eng. Bot.* vol. ii. p. 96. *Eng. Fl.* vol. iii. p. 292. 1091.

16. ORNI'THOPUS. Linn. BIRD'S-FOOT.

Calyx inferior, tubular, with 5 nearly equal, marginal teeth. Corolla of 5 petals; standard obovate, entire, ascending; wings rather smaller, obovate, curved upwards; keel smaller, of 2 rounded, united petals, with separated claws. Filaments 10, 9 united into a compressed tube, open along its upper edge, the other capillary, separate; all curved upwards at the end; anthers minute, roundish. Germen linear, compressed; style slender, ascending; stigma knobbed, bare. Legume curved, compressed, jointed, finally separating at the joints, each of which contains one roundish seed.—Name from ορνις, a bird, and πους, a foot. 395.

1. O. perpusil'lus. L. *Common Bird's-foot.* Leaves pinnate; flowers in heads; legumes curved inwards, bead-like.——*Stems* procumbent, from three to ten inches long: leaves of numerous pairs of elliptical, hairy leaflets: flowers 3 or 4 in each head, which is accompanied by a pinnate leaf: corolla white, veined with red, the keel greenish. Annual: flowers in May; grows in sandy pastures: frequent. *Eng. Bot.* vol. vi. pl. 369. *Eng. Fl.* vol. iii. p. 290. 1092.

17. HIPPOCRE'PIS. Linn. HORSE-SHOE VETCH.

Calyx inferior, campanulate, divided half-way into 5 lanceolate, acute, permanent segments; the upper 2 shorter. Corolla of 5 petals, with claws longer than the calyx; standard cordate, ascending; wings obovate, obtuse; keel rounded, pointed, of 2 united petals, with separate claws. Filaments 10, 9 united into a tube, open along its upper edge, the other separate, all curved upwards at the end; anthers roundish. Germen slender, compressed, tapering into a subulate, ascending style; stigma linear, smooth. Legume compressed, partly membranous, incurved, notched, with many curved joints, finally separating at the joints, each of which contains a single curved, oblong seed.—Name from ιππος, a horse, and κρηπις, a shoe. 396.

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1. **H. como'sa.** L. *Tufted Horse-shoe Vetch.* Legumes in umbels, curved downwards, not dilated at the margin.——*Root* woody; stems from six inches to a foot long: leaflets from 7 to 11, obovate, hairy beneath: flowers about 6 together, on long axillar or terminal stalks: flowers yellow, striate. Perennial: flowers from May to September: grows in dry chalky pastures in England: frequent. *Eng. Bot.* vol. i. pl. 31. *Eng. Fl.* vol. iii. p. 291. 1093.

18. MEDICA'GO. Linn. MEDICK.

Calyx inferior, tubular, permanent, with 5 acute, nearly equal teeth. Corolla of 5 petals, deciduous; standard ovate, ascending, with a short broad claw; wings obovate, cohering by their lower edges; keel of 2 united petals with separate claws, oblong, obtuse, depressed by the germen, and finally spreading widely. Filaments 10, 9 united nearly to their summits into a compressed tube, split above, the other capillary, separate; anthers small, roundish. Germen stalked, oblong, compressed, incurved or spiral, starting elastically from the keel, and forcing back the standard. Style subulate, straight, ascending; stigma terminal, minute. Legume compressed, inflexed, sickle-shaped, or spiral, 1-celled, 2-valved. Seeds several, reniform, smooth. —Name from μηδικη of the Greeks, the plant having been introduced from Media. 397.

1. **M. falca'ta.** L. *Yellow Sickle Medick.* Racemes erect; legumes sickle-shaped; stem procumbent.——*Stems* about two feet long: flowers pale-yellow, sometimes green, occasionally purple. Perennial: flowers in June and July: grows in pastures and borders of fields in some parts of England, but is not indigenous. *Eng. Bot.* vol. xv. pl. 1016. *Eng. Fl.* vol. iii. p. 317. 1094.

2. **M. lupuli'na.** L. *Black Medick Nonesuch.* Spikes ovate, erect; legumes reniform, 1-seeded; stem procumbent.——*Resembles Trifolium minus* in its stems and yellow flowers. Annual: flowers from June to September: grows in pastures and fields: common. *Eng. Bot.* vol. xiv. pl. 971. *Eng. Fl.* vol. iii. p. 318. 1095.

3. **M. macula'ta.** Sibth. *Spotted Medick.* Stalks 2- or 3-flowered; leaflets obcordate, spotted; stipules acutely toothed; legumes spiral, depressed, fringed with long bristles.——*Stems* prostrate; leaflets marked in the centre with an irregular dark spot: flowers yellow. Annual: flowers in May and June: grows in gravelly soil in the south of England. *Eng. Bot.* vol. xxiii. pl. 1616. *Eng. Fl.* vol. iii. p. 319. 1096.

4. **M. mi'nima.** L. *Little Bur Medick.* Stalks many-flowered; stipules semi-ovate, nearly entire; leaflets obovate, hairy; legumes globular, with 2 rows of hooked prickles.——*Prostrate* and silky: flowers yellow. Annual: flowers in June and July: grows in sandy fields in England: rare. *Eng. Fl.* vol. iii. p. 321. 1097.

5. **M. denticula'ta.** Willd. *Reticulated Medick.* Stalks few-flowered; stipules laciniate; leaflets obcordate; legumes broad, loosely spiral, flat, reticulated, the margin keeled, with a double row of close-curved prickles.——*Annual:* flowers from April to June: grows on the coasts of Kent and Norfolk: rare. Discovered by the

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Rev. G. E. Smith. *Eng. Bot. Suppl.* pl. 2634. *Brit. Fl.* 4th ed. p. 280. 1098.

19. MELILOTUS. Tourn. MELILOT.

Calyx inferior, tubular, with 5 nearly equal teeth, permanent; corolla of 4 distinct petals, deciduous, longer than the calyx; standard reflexed; wings oblong, shorter than the standard; keel shorter than the wings, obtuse. Filaments 10, 9 united into a compressed tube, the other separate; anthers roundish. Germen oblong; style subulate, curved upwards; stigma simple, smooth. Legume longer than the calyx, few-seeded, indehiscent. Name from *mel*, honey, and *lotus*. 398.

1. **M. officina'lis.** L. *Common Yellow Melilot.* Racemes dense, the flowers pointing one way; petals of nearly equal length; legume protruding, acute, transversely wrinkled, hairy, 2-seeded; stem erect; stipules subulate.——*Stem* two or three feet high, erect, branched, angular: leaflets serrate: flowers yellow, in axillar, long-stalked racemes. In drying it emits a strong smell, resembling that of new hay. Cultivated as food for cattle. Biennial: flowers in June and July: grows in thickets, hedges, and borders of fields. *Eng. Bot.* vol. xix. pl. 1240. *Eng. Fl.* vol. iii. p. 297. *Eng. Bot. Suppl.* pl. 2689. *Eng. Fl.* 4th ed. p. 274. 1099.

2. **M. vulga'ris.** Willd. *White Melilot.* Racemes lax, the flowers pointing one way; keel and wings shorter than the standard; legume 1- or 2-seeded, ovate, obtuse, mucronate, reticularly wrinkled.——*Stem* from two to four feet high, erect: flowers white, in axillar long-stalked racemes. Biennial: flowers in July: grows chiefly in cultivated fields. Probably introduced. *Melilotus leucantha*, Koch. *Eng. Bot. Suppl.* pl. 2689. 1100.

3. **M. arven'sis.** Wallr. *Field Melilot.* Racemes lax, the flowers pointing one way; wings and standard equal, keel shorter; legume 1- or 2-seeded, ovate, obtuse, mucronate, transversely rugose.——*Stem* branched from the base, ascending: flowers yellow. Perennial: flowers in July and August: grows near Thetford and Cambridge. *Eng. Bot. Suppl.* pl. 2960. 1101.

20. TRIFO'LIUM. Linn. TREFOIL. CLOVER.

Calyx inferior, tubular, with 5 unequal teeth, permanent. Corolla of 4 petals, all more or less united by their long claws, about as long as the calyx, generally permanent, withering; standard reflexed; wings oblong, shorter than the standard; keel of 1 petal, obtuse, shorter than the wings. Filaments 10, 9 united into a compressed tube, the other capillary, separate; anthers roundish. Germen oblong; style subulate, curved upwards; stigma simple, smooth. Legume short, membranous, 1-valved, 1-celled, indehiscent, hardly longer than the calyx. Seeds from 1 to 4, roundish, smooth.—Name from *tria*, three, and *folia*, leaves. 399.

* *Flowers in heads; legumes many-seeded.*

1. **T. ornithopodioi'des.** L. *Bird's-foot Trefoil.* Flowers about

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3 in each head; legume protruding, 8-seeded, twice as long as the calyx; stems decumbent.——*Stem* from three to five inches long: flowers rose-coloured. Annual: flowers in June and July: grows in dry, sandy, or gravelly pastures: not common. *Eng. Bot.* vol. xv. pl. 1047. *Eng. Fl.* vol. iii. p. 298. 1102.

2. **T. re'pens.** L. *White Trefoil. Dutch Clover.* Heads of flowers stalked, spherical, the flowers on short pedicels; legume 4-seeded, included within the calyx; stems creeping; leaflets obcordate.——*Stems* from six to twelve inches long: flowers white, fragrant; leaflets generally brown on the back. A valuable pasture plant, supposed erroneously to indicate a rich soil. Perennial: flowers from May to September: grows in meadows and pastures, abundantly. *Eng. Bot.* vol. xxv. pl. 1769. *Eng. Fl.* vol. iii. p. 392. 1103.

3. **T. suffoca'tum.** L. *Suffocated Trefoil.* Heads of flowers sessile, lateral, roundish; legume 2-seeded, concealed within the calyx; teeth of the calyx lanceolate, acute, recurved, longer than the corolla.——*The* whole plant generally buried in sand: flowers pale rose-colour. Annual: flowers in June and July: grows on the sandy sea-coast at Yarmouth, and other places in the south-east and south of England. *Eng. Bot.* vol. xv. pl. 1049. *Eng. Fl.* vol. iii. p. 300. 1104.

** *Flowers in heads; legumes* 1-*seeded, calyx generally hairy.*

4. **T. stric'tum.** L. *Upright Round-headed Trefoil.* Heads of flowers stalked, axillar, and terminal; teeth of the calyx nearly equal; subulate, spreading.—— *Glabrous:* stem two or three inches high: leaves striate: stipules large, with glandular teeth. Annual: flowers in June and July: grows on rocky banks at Landewednack and Old Lizard Head, Cornwall. *Eng. Bot. Suppl.* pl. 2949. 1105.

5. **T. subterra'neum.** L. *Subterraneous Trefoil.* Heads of about 4 flowers, hairy; a central, reflexed, stiff, starry tuft of fibres from the top of the stalk embracing the fruit.——*Stems* pressed close to the ground, from three to six inches long, hairy: flowers white, at first erect, afterwards bent to the ground, the stalk sending out from its extremity several fibres. Annual: flowers in May: grows in dry gravelly pastures in England: frequent. *Eng. Bot.* vol. xv. pl. 1048. *Eng. Fl.* vol. iii. p. 300. 1106.

6. **T. ochroleu'cum.** L. *Sulphur-coloured Trefoil.* Flowers in a solitary terminal head; stem erect, downy; lower leaflets obcordate; lowest tooth of the calyx thrice as long as the rest.——*Stems* from twelve to eighteen inches high: flowers pale-yellow. Perennial: flowers in June and July: grows in dry pastures in England: frequent. *Eng. Bot.* vol. xvii. pl. 1224. *Eng. Fl.* vol. iii. p. 301. 1107.

7. **T. praten'se.** L. *Common Purple Clover.* Heads dense, ovate; stems ascending; petals unequal; lower calyx-tooth longer than the rest, which are equal; stipules ovate, bristle-pointed.——*Stems* about a foot high: leaflets elliptical, entire, nearly smooth: flowers purple, sweet-scented. A valuable pasture plant, extensively cultivated. Perennial: flowers in June and July: grows in pastures: common. *Eng. Bot.* vol. xxv. pl. 1770. *Eng. Fl.* vol. iii. p. 302. 1108.

8. **T. me'dium.** L. *Zig-zag Trefoil.* Heads ovate, rather lax; stems zig-zag; petals nearly equal; 2 upper calyx-teeth rather shorter; stipules linear, parallel.——*Stems* about a foot high, branched:

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leaflets elliptical, notched, hairy: flowers purple, larger than those of the last species. Perennial: flowers in June and July: grows in dry pastures and thickets: frequent. *Eng. Bot.* vol. iii. pl. 290. *Eng. Fl.* vol. iii. p. 302. 1109.

9. **T. mari'timum.** Huds. *Teasel-headed Trefoil.* Heads ovate, somewhat hairy; stipules lanceolate, erect; calyx-teeth after flowering dilated, leafy; leaflets obovate.——*Stems* spreading, about a foot long: flowers pale-red. Annual: flowers in June and July: grows in salt marshes, on the eastern and southern coasts of England, and in Ireland. *Eng. Bot.* vol. iv. pl. 220. *Eng. Fl.* vol. iii. p. 303. 1110.

10. **T. stella'tum.** L. *Starry-headed Trefoil.* Heads roundish, hairy; stipules elliptical; calyx-teeth longer than the corolla, after flowering dilated, leafy, the tube closed; leaflets obcordate.——*Stems* spreading, hairy: flowers light-crimson. Annual: flowers in July and August: found by Mr. Borrer between Shoreham harbour, in Sussex, and the sea, where it has been naturalized. *Eng. Bot.* vol. xxii. pl. 1545. *Eng. Fl.* vol. iii. p. 304. 1111.

11. **T. arven'se.** L. *Hare's-foot Trefoil.* Heads oval, very hairy; stipules lanceolate, bristle-pointed; calyx-teeth longer than the corolla, permanently bristle-shaped; leaflets narrow, obovate.——*Stem* from four inches to a foot high, erect, branched: flowers with pale-red or white petals. Annual: flowers in July and August: grows in dry pastures and fields: common. *Eng. Bot.* vol. xiv. pl. 944. *Eng. Fl.* vol. iii. p. 305. 1112.

12. **T. sea'brum.** L. *Hard-knotted Trefoil.* Heads ovate, sessile, axillar: calyx-teeth unequal, lanceolate, stiff, ultimately recurved; stems procumbent.——*Stem* from three to nine inches long, stiff, hairy: flowers whitish. Annual: flowers in May and June: grows in dry sandy fields: not common. *Eng. Bot.* vol. xiii. pl. 903. *Eng. Fl.* vol. iii. p. 306. 1113.

13. **T. Bocco'ni.** Savi. *Boccone's Trefoil.* Heads of flowers dense, ovato-oblong, sessile, terminal, teeth of the calyx lanceolato-subulate, about as long as the corolla; leaflets obovate; stipules oblong, with a long subulate point.——*Stem* from two to six inches high, erect: flowers pale-yellow. Annual: flowers in July: grows in dry places, in Cornwall; Cadgewith and Cathellian. *Eng. Bot. Suppl.* pl. 2868. 1114.

14. **T. glomera'tum.** L. *Smooth Round-headed Trefoil.* Heads hemispherical, sessile, axillar; calyx-teeth ovate, very acute, veiny, smooth, reflexed; stems prostrate.——*Stems* from three inches to a foot long, straight: flowers rose-coloured. Annual: flowers in June: grows in gravelly fields and pastures in the east and south of England. *Eng. Bot.* vol. xv. pl. 1063. *Eng. Fl.* vol. iii. p. 307. 1115.

15. **T. stria'tum.** L. *Soft-knotted Trefoil.* Heads ovate, sessile, axillar and terminal: calyx elliptical, furrowed, hairy, with bristle-shaped teeth; stems procumbent.——*From* four to ten inches long: flowers pale rose-coloured. Annual: flowers in June: grows in sandy fields and pastures: frequent. *Eng. Bot.* vol. xxvi. pl. 1843. *Eng. Fl.* vol. iii. p. 307. 1116.

*** *Legumes* 1-*seeded. Calyx of the fruit inflated.*

16. **T. fragi'ferum.** L. *Strawberry-headed Trefoil.* Heads round-

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ish, upon long stalks; calyx at length inflated, membranous, two of its teeth reflexed; stems creeping.——*Stems* prostrate, creeping, smooth: leaflets obcordate, serrate: flowers rose-coloured: calyces finally red, the head in this state resembling a strawberry. Perennial: flowers in July and August: grows in meadows and pastures: not common. *Eng. Bot.* vol. xv. pl. 1050. *Eng. Fl.* vol. iii. p. 308. 1117.

17. **T. resupina'tum.** L. *Reversed Trefoil.* Heads roundish, on short stalks; calyx at length membranous, inflated, acute, hairy, two of its teeth longer and spreading; corollas reversed.——*Stems* procumbent: leaflets obovate. Annual: flowers in July: found in meadows near Bristol and Poole, but is not truly wild. *Eng. Bot. Suppl.* pl. 2789. *Brit. Fl.* 4th ed. p. 277. 1118.

**** *Legumes* 1-*seeded. Standards finally deflexed, dry and membranous.*

18. **T. procum'bens.** L. *Hop Trefoil.* Heads oval, many-flowered; standard finally deflexed, furrowed; stems spreading or procumbent; common leaf-stalk longer than the middle partial leaf-stalk.——*Stems* very numerous, spreading all round, from four inches to a foot long: heads of about 50 bright-yellow flowers. Annual: flowers in June and July: grows in dry pastures: common. *Eng. Bot.* vol. xiv. pl. 945. *Eng. Fl.* vol. iii. p. 309. 1119.

19. **T. filifor'me.** L. *Slender Yellow Trefoil.* Clusters loose, few-flowered; common flower-stalks filiform, waved; standard even; stems prostrate; common leaf-stalk shorter than the nearly sessile middle leaflet.——*Stems* from four to ten inches long: flowers yellow, 3 or 4 only in each cluster. Annual: flowers in June and July: grows in dry pastures: common. *Eng. Bot.* vol. xviii. pl. 1257. *Eng. Fl.* vol. iii. p. 311. The *T. minus, Lesser Yellow Trefoil,* is a large variety of this plant, with heads of many flowers and leaf-stalks longer than the leaves. *Eng. Bot.* vol. xviii. pl. 1256. *Eng. Fl.* vol. iii. p. 310. 1120.

21. LOTUS. Linn. BIRD'S-FOOT TREFOIL.

Calyx inferior, tubular, permanent, with 5 acute, nearly equal teeth. Corolla of 5 petals, deciduous; standard obovate, ascending, with a vaulted claw; wings oblong, obtuse, approaching each other, shorter than the standard; keel prominent beneath, closed above, of 2 united petals, with an ascending point, and short separated claws. Filaments 10, 9 united into a compressed tube, split above, the other capillary, separate, all generally dilated under the anthers; anthers small, roundish. Germen cylindrical; styles filiform, ascending at a right angle; stigma simple. Legume cylindrical, straight, much longer than the calyx, 2-valved, 1-celled, the seeds separated by a spongy substance. Seeds globular.—Name, λωτος, of the Greeks. 400.

1. **L. cornicula'tus.** L. *Common Bird's-foot Trefoil.* Heads few-flowered, depressed; stems procumbent; legumes spreading, nearly cylindrical; claw of the standard broad; filaments all dilated under

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the anthers.——*Stems* several, spreading all round, from four to ten inches long; flowers about three in each head, bright-yellow, generally streaked with red. Perennial: flowers from May to September: grows in pastures abundantly. An excellent pasture plant. It presents several varieties, some of which have been considered as species, especially one with long slender stems, the *L. tenuis* of some botanists. *Eng. Bot.* vol. xxx. pl. 2090. *Eng. Fl.* vol. iii. p. 312. 1121.

2. **L. ma'jor.** Scop. *Greater Bird's-foot Trefoil.* Heads many-flowered, depressed; stems erect, hollow; legumes drooping, cylindrical; claw of the standard linear; shorter filaments not dilated.——*Stems* erect, from one to two feet high, succulent and tubular: flowers from 6 to 12, yellow. Perennial: flowers in July and August: grows in moist pastures, and by ditches and hedges: common. *Eng. Bot.* vol. xxx. pl. 2091. *Eng. Fl.* vol. iii. p. 313. 1122.

3. **L. angustis'simus.** L. *Slender Bird's-foot Trefoil.* Flowers solitary, or in pairs; stems tubular, much branched, prostrate; legumes 2-edged, very slender; calyx loosely hairy, its teeth fringed, twice as long as the tube.——*Stems* from six to ten inches long: flowers yellow. Perennial: flowers in May and June: grows in meadows on the southern and western coasts of England and Ireland: very rare. *Eng. Bot.* vol. xiii. pl. 925. *Eng. Fl.* vol. iii. p. 315. 1123.

Class XVIII. POLYADELPHIA.

Filaments united, forming more than two sets.

Order I. POLYANDRIA. *Numerous Stamens.*

1. HYPE'RICUM. *Calyx* inferior, deeply divided into 5 segments. *Petals* 5. *Filaments* united into 3 or 5 sets. *Capsule* many-seeded.

POLYADELPHIA.—POLYANDRIA.

1. HYPERICUM. Linn. ST. JOHN'S-WORT.

Calyx inferior, deeply divided into 5 subovate, concave, permanent segments. Petals 5, ovate, or oblong, obtuse, expanding, overlapping each other laterally. Filaments numerous, capillary, united at the base into 3 or 5 sets; anthers small, roundish. Germen superior, ovate; styles varying from 5 to 1, simple, distant; stigmas simple. Capsule roundish, with as many cells as there are styles. Seeds numerous.—Name, ὑπερικον of Dioscorides. 401.

1. **H. calyci'num.** L. *Large-flowered St. John's-wort.* Styles 5; flowers solitary; stem woody, four-cornered, branched; segments of the calyx obovate, obtuse; leaves oblong.——*Root* creeping: stems erect, twelve or eighteen inches high: leaves leathery, evergreen,

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very shortly stalked: flowers golden-yellow. A shrub: flowers in July and August: grows in bushy places: rare, and not indigenous. *Eng. Bot.* vol. xxix. pl. 2017. *Eng. Fl.* vol. iii. p. 323. 1124.

2. **H. Androsæ'mum.** L. *Tutsan.* Styles 3; capsule pulpy; stem woody, compressed; leaves ovate, sessile.——*Two* or three feet high: flowers yellow, in terminal panicles: capsule purplish-black. A shrub: flowers in July: grows in hedges and bushy places: rare in England, not uncommon in the west of Scotland and Ireland. *Eng. Bot.* vol. xviii. pl. 1225. *Eng. Fl.* vol. iii. p. 323. 1125.

3. **H. quadran'gulum.** L. *Square St. John's-wort.* Styles 3; stem herbaceous, acutely 4-cornered; leaves ovate, with pellucid dots; segments of the calyx lanceolate.——*Root* creeping: stems from one to two feet high, erect, leafy, with numerous leafy opposite branches: leaves in pairs, sessile: petals yellow, generally streaked with dark-purple. Perennial: flowers in July and August: grows in moist meadows and hedges: common. *Eng. Bot.* vol. vi. pl. 370. *Eng. Fl.* vol. iii. p. 324. 1126.

4. **H. perfora'tum.** L. *Perforated* or *Common St. John's-wort.* Styles 3; stem 2-edged; leaves elliptical, with pellucid dots; segments of the calyx lanceolate.——*Stem* from one to two feet high, branched: flowers bright-yellow, dotted and streaked with dark-purple, in terminal panicles: petals and calyx fringed with small black glands. This plant has long held a place in the Materia Medica, being aromatic and stimulant. The flowers tinge spirits and oils of a fine purple colour. Perennial: flowers in June and July: grows in dry pastures, woods, and open heaths: common. *Eng. Bot.* vol. v. pl. 295. *Eng. Fl.* vol. iii. p. 325. 1127.

5. **H. du'bium.** Leers. *Imperforate St. John's-wort.* Styles 3; stem obscurely 4-cornered; leaves elliptical, obtuse, without pellucid dots; segments of the calyx elliptical.——*Stem* from one to two feet high: flowers bright-yellow, in terminal panicles: petals and calyx dotted and blotched with dark-purple. Perennial: flowers in July and August: grows in rather mountainous woods: not common. *Eng. Bot.* vol. v. pl. 296. *Eng. Fl.* vol. iii. p. 326. 1128.

6. **H. humifu'sum.** L. *Trailing St. John's-wort.* Styles 3; stem compressed, prostrate; leaves elliptical, smooth; segments of the calyx ovate.——*Stems* branched, from six inches to a foot long: margins of the leaves with dark spots: petals and segments of the calyx more or less fringed with black glands. Perennial: flowers in July: grows in pastures and on dry heaths: not uncommon. *Eng. Bot.* vol. xviii. pl. 1226. *Eng. Fl.* vol. iii. p. 326. 1129.

7. **H. monta'num.** L. *Mountain St. John's-wort.* Styles 3; stem erect, round, smooth; leaves ovate, smooth, embracing the stem; calyx with glandular serratures.——*Stems* about two feet high, simple, leafy: leaves small, sprinkled with small pellucid dots, their margins with black glandular dots: petals pale-yellow: bracts and calyx margined with black glands. Perennial: flowers in July: grows in hilly places, in woods and thickets: not common. *Eng. Bot.* vol. vi. pl. 371. *Eng. Fl.* vol. iii. p. 327. 1130.

8. **H. linarifo'lium.** Vahl. *Linear-leaved St. John's-wort.* Styles

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3; stem erect, procumbent below, round, smooth; segments of the calyx lanceolate, with black spots and glandular serratures; leaves linear, obtuse.——*Flowers* rather large, yellow, in terminal cymes: leaves with the margins revolute. Perennial: flowers in July and August: found in several parts of Devonshire and Jersey. *Brit. Fl.* 4th. ed. p. 282. *Prim. Fl. Sarn.* p. 20. *Eng. Bot. Suppl.* pl. 2851. 1131.

9. **H. hirsu'tum.** L. *Hairy St. John's-wort.* Styles 3; stem erect, rounded; leaves ovate, downy; segments of the calyx lanceolate, with glandular serratures.——*Stems* about two feet high, numerous, erect, downy, as well as the leaves: flowers bright-yellow, very numerous: bracts and segments of the calyx fringed with black glands. Perennial: flowers in July: grows in woods and thickets: frequent. *Eng. Bot.* vol. xvii. pl. 1156. *Eng. Fl.* vol. iii. p. 328. 1132.

10. **H. pul'chrum.** L. *Small Upright St. John's-wort.* Styles 3; stem erect, round; leaves cordate, smooth, clasping the stem; segments of the calyx ovate, with glandular serratures.——*Stem* about two feet high, panicled at the top. The whole plant smooth. Petals bright-yellow, tipped externally with red, fringed, like the calyx, with black glands. Perennial: flowers in July: grows in woods, on heaths, and in dry pastures: frequent. *Eng. Bot.* vol. xviii. pl. 1227. *Eng. Fl.* vol. iii. p. 329. 1133.

11. **H. elo'des.** L. *Marsh St. John's-wort.* Styles 3; stems procumbent, creeping, round; leaves roundish, hairy; segments of the calyx obtuse, with glandular serratures.——*Stems* about six inches long, branched at the base, prostrate, hairy, as are the leaves: flowers pale-yellow. Perennial: flowers in July and August: grows in boggy places: not common. *Eng. Bot.* pl. 109. *Eng. Fl.* vol. iii. p. 330. 1134.

CLASS XIX. SYNGENESIA.

Plants bearing compound Flowers having their anthers united into a tube.

Order I. POLYGAMIA ÆQUALIS.

Florets all perfect, each having five stamens and one pistil, and producing one seed.

* *All the corollas ligulate.*

1. TRAGOPO'GON. *Receptacle* naked. *Pappus* feathery, stalked. *Involucre* simple, of equal leaves in two rows.
2. HELMIN'THIA. *Receptacle* naked. *Pappus* feathery. *Involucre* with the outer scales lax, the inner close. *Achenes* beaked.
3. PI'CRIS. *Receptacle* naked. *Pappus* feathery. *Involucre* with the outer scales lax, the inner equal. *Achenes* scarcely beaked.
4. THRIN'CIA. *Receptacle* naked. *Pappus* of the outer floret a short scaly cup, of the rest plumose. *Involucre* imbricated.
5. APAR'GIA. *Receptacle* naked, dotted. *Pappus* feathery, sessile, unequal. *Involucre* double, the inner imbricated.

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6. HYPOCHŒ'RIS. *Receptacle* chaffy. *Pappus* feathery. *Involucre* oblong, imbricated.
7. LACTU'CA. *Receptacle* naked. *Pappus* simple, stalked. *Involucre* imbricated, simple, cylindrical; scales membranous at the margin.
8. SON'CHUS. *Receptacle* naked, dotted. *Pappus* simple, sessile, very soft and flaccid. *Involucre* imbricated, simple, swelled at the base.
9. MULGE'DIUM. *Receptacle* naked. *Pappus* simple, sessile, brittle. *Involucre* with the outer scales short, lax; the inner in 1 row, equal.
10. HIERA'CIUM. *Receptacle* nearly naked, dotted. *Pappus* simple, sessile. *Calyx* ovate, imbricated.
11. LEON'TODON. *Receptacle* naked. *Pappus* feathery, stalked. *Calyx* nearly ovate, imbricated.
12. BORKHAU'SIA. *Receptacle* naked. *Pappus* pilose. *Involucre* ovate, with deciduous, subulate scales, at length ribbed.
13. CRE'PIS. *Receptacle* roughish. *Pappus* simple. *Involucre* double; the outer lax, tumid, deciduous.
14. CICHO'RIUM. *Receptacle* slightly chaffy. *Pappus* chaffy, shorter than the seed. *Involucre* double.
15. LAPSA'NA. *Receptacle* naked. *Pappus* none. *Involucre* having scales at the base.

** *Corollas all tubular, generally spreading so as to form a hemispherical head.*

16. ARC'TIUM. *Receptacle* chaffy. *Pappus* pilose. *Involucre* globose, imbricated; the scales thorny, hooked, inflexed.
17. SERRA'TULA. *Receptacle* chaffy. *Pappus* pilose, stiff, persistent. *Involucre* nearly cylindrical, imbricated; the scales thornless.
18. SAUSSU'REA. *Receptacle* chaffy. *Pappus* sessile, double, the outer of short rough bristles, the inner plumose; deciduous. *Involucre* of unarmed, imbricated scales.
19. CAR'DUUS. *Receptacle* hairy. *Pappus* simple, roughish, deciduous. *Involucre* swelled, imbricated; the scales thorny.
20. CNI'CUS. *Receptacle* hairy. *Pappus* feathery, deciduous. *Involucre* swelled, imbricated; the scales thorny.
21. ONOPOR'DUM. *Receptacle* cellular, somewhat chaffy. *Pappus* rough, deciduous. *Involucre* swelled; scales thorny, spreading.
22. CARLI'NA. *Receptacle* chaffy. *Pappus* plumose. *Involucre* swelling; the outer scales thorny; the inner coloured, polished, membranous.

(*Centaurea Jacea.*)

*** *Corollas all tubular, parallel, crowded, forming nearly a level surface at the top.*

23. BI'DENS. *Receptacle* chaffy. *Pappus* rough with reversed prickles. *Involucre* of many parallel, channelled scales. *Head of Flowers* sometimes radiated.
24. DIO'TIS. *Receptacle* chaffy, with hair-tipped scales. *Pappus* none. *Involucre* imbricated, hemispherical. *Corollas* with 2 ears bordering the fruit.

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25. EUPATO'RIUM. *Receptacle* naked. *Pappus* rough. *Involucre* imbricated, oblong. *Style* cleft half-way down, protruded.
26. CHRYSO'COMA. *Receptacle* naked. *Pappus* rough. *Involucre* scarcely longer than the corolla.

(Tanacetum. Senecio vulgaris. Aster Tripolium. Anthemis nobilis.)

Order II. POLYGAMIA SUPERFLUA.

Florets all fertile, those of the disk furnished with five stamens and one pistil, those of the circumference with a pistil alone.

* *Corollas of the marginal florets obsolete or inconspicuous.*

27. TANACE'TUM. *Receptacle* naked. *Achene* with a membranous crown. *Involucre* imbricated, hemispherical. *Marginal florets* 3-cleft, obsolete, sometimes wanting.
28. ARTEMI'SIA. *Receptacle* naked or hairy. *Pappus* none. *Calyx* imbricated, with rounded converging scales. *Marginal florets* subulate, entire
29. ANTENNA'RIA. Diœcious. *Receptacle* naked. *Pappus* pilose, of the staminiferous heads thickened upwards. *Anthers* with basal bristles.
30. GNAPHA'LIUM. *Receptacle* flat, naked. *Pappus* rough or feathery. *Involucre* imbricated, with membranous, coloured scales.
31. PETA'SITES. Subdiœcious. *Receptacle* naked. *Pappus* pilose. *Involucre* imbricated, with 2 rows of herbaceous scales.
32. FILA'GO. *Receptacle* conical, with 1 or a few rows of scales among the outer subulate florets. *Pappus* rough or feathery. *Involucre* imbricated, with membranous coloured scales.

** *Corollas of the marginal florets strap-shaped.*

33. TUSSILA'GO. *Receptacle* naked. *Pappus* simple. *Involucre* simple, swelled at the base; scales numerous, equal, somewhat membranous.
34. SENE'CIO. *Receptacle* naked. *Pappus* simple. *Involucre* double; the inner cylindrical, of equal scales; the outer of several minute ones; all the scales scariose at the tip.
35. CINERA'RIA. *Receptacle* naked. *Pappus* simple. *Involucre* simple, cylindrical; scales numerous, equal. *Fruit* 4-cornered.
36. ERI'GERON. *Receptacle* naked. *Pappus* simple. *Involucre* imbricated. *Marginal florets* numerous, linear, very narrow. *Anthers* without bristles.
37. AS'TER. *Receptacle* naked. *Pappus* simple. *Involucre* imbricated, the lower scales spreading. *Marginal florets* more than 10.
38. DORO'NICUM. *Receptacle* naked. *Pappus* simple, wanting on the fruits of the rays. *Involucre* a double row of equal scales, longer than the disk.
39. I'NULA. *Receptacle* naked. *Pappus* simple. *Involucre* hemispherical, imbricated. *Marginal florets* very numerous, linear. *Anthers* with 2 bristles at the base.
40. PULICA'RIA. *Receptacle* naked. *Pappus* double; outer short, membranous; inner pilose, rough. *Involucre* hemispherical, imbricated. *Anthers* with bristles at their base.

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41. SOLIDA'GO. *Receptacle* naked, pitted. *Pappus* simple. *Involucre* imbricated, its scales close. *Marginal florets* about 5.
42. BEL'LIS. *Receptacle* naked, conical. *Pappus* none. *Involucre* hemispherical; scales equal. *Fruit* obovate.
43. CHRYSAN'THEMUM. *Receptacle* naked, a little convex. *Pappus* none. *Involucre* hemispherical, imbricated; the scales with a dilated membranous border.
44. MATRICA'RIA. *Receptacle* naked, nearly cylindrical. *Pappus* none. *Involucre* hemispherical or nearly plane, imbricated; the scales membranous on the edges.
45. AN'THEMIS. *Receptacle* convex, chaffy. *Fruit* crowned with a membranous border. *Involucre* hemispherical, its scales nearly equal, their margins membranous.
46. PYRE'THRUM. *Receptacle* naked. *Fruit* crowned with a membranous border. *Involucre* hemispherical, imbricated, the scales rather acute, membranous at the edges.
47. ACHILLE'A. *Receptacle* flat, chaffy. *Pappus* none. *Involucre* ovate, imbricated; the scales unequal. *Marginal florets* few, roundish.

(*Bidens cernua.*)

Order III. POLYGAMIA FRUSTRANEA.

Florets of the disk perfect and fertile, those of the circumference destitute of both stamens and pistil.

48. CENTAURE'A. *Receptacle* bristly. *Pappus* simple or feathery. *Involucre* imbricated. *Marginal florets* funnel-shaped, dilated, irregular.

POLYGAMIA ÆQUALIS.

1. TRAGOPO'GON. Linn. GOAT'S-BEARD.

Involucre simple, of several lanceolate equal scales, arranged alternately in 2 rows, all connected at the base, permanent. Florets numerous, all perfect, ligulate, abrupt, 5-toothed. Filaments 5, capillary, very short; anthers united into a tube. Germen obovate; style filiform, as long as the anthers; stigmas 2, revolute. Achenes inclosed by the permanent involucre, 1 to each floret, oblong, angular, striate, tapering at both ends, crowned by the pappus, which is feathery and supported on a long stalk; receptacle naked, flat, rough.—Name from τραγος, a goat, and πωγων, a beard. 402.

1. T. praten'sis. L. *Yellow Goat's-beard.* Involucre about as long as the corollas: leaves tapering, keeled, dilated at the base, smooth; flower-stalk cylindrical. —— *The* whole plant smooth, abounding with milky juice: stems erect, round, leafy, from one to two feet high: flowers yellow. Biennial: flowers in June: grows in pastures. *Eng. Bot.* vol. vii. pl. 434. *Eng. Fl.* vol. iii. p. 337. A variety of this species, with the calyx much longer than the corolla, and the flower-stalks slightly enlarged upwards, is the *T. Major, Greater Goat's-beard,* of some. 1135.

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2. T. porrifo'lius. L. *Purple Goat's-beard.* Involucre much longer than the corollas; leaves tapering; flower-stalk enlarged upwards.——*The* whole plant smooth: stem three or four feet high, erect: flowers purple. Biennial: flowers in May and June: grows in moist meadows and pastures, but is not indigenous: rare. *Eng. Bot.* vol. ix. pl. 638. *Eng. Fl.* vol. iii. p. 338. 1136.

2. HELMIN'THIA. Juss. HELMINTHIA.

Involucre ovate, of many equal close scales, and a few outer shorter, lax. Florets numerous, perfect, ligulate, abrupt, 5-toothed. Filaments 5, capillary, very short; anthers united. Germen subovate; style filiform, as long as the stamens; stigmas reflexed. Achenes ovate, obtuse, transversely striate, beaked; pappus plumose. Receptacle naked, dotted.—Name, ἑλμινθιον, a worm. 403.

1. H. echio'ides. L. Gærtn. *Bristly Helminthia.* Outer involucre of 5 broad prickly scales; pappus stalked; leaves waved.——*Stem* two or three feet high, round, furrowed: lower leaves lanceolate, upper cordate, embracing the stem: flowers bright-yellow. Annual: flowers in June and July; grows in hedges and borders of fields in England, and about Dublin: frequent. *Eng. Bot.* vol. xiv. pl. 792. *Picris echioides*, L. *Eng. Fl.* vol. iii. p. 339. 1137.

3. PI'CRIS. Linn. OX-TONGUE.

Involucre ovate, of many equal parallel leaves, and several flat external scales. Florets numerous, perfect, ligulate, abrupt, 5-toothed. Filaments 5, capillary, very short; anthers united into a tube. Germen subovate; style filiform, as long as the stamens; stigmas 2, reflexed. Achenes 1 to each floret, swelled, obtuse, transversely wrinkled; pappus feathery, sessile or stalked. Receptacle naked, dotted.—Name from πικρος, bitter. 404.

1. P. hieracio'ides. L. *Hawkweed Ox-tongue.* Outer scales of the involucre much shorter than the inner; leaves lanceolate, waved, the lower ones toothed; pappus sessile; stem rough.——*Stem* three feet high, furrowed, rough: leaves lanceolate, acute, hairy: flowers bright-yellow. Biennial: flowers in July and August: grows on dry banks and in the borders of fields: frequent. *Eng. Bot.* vol. iii. pl. 196. *Eng. Fl.* vol. iii. p. 340. 1138.

4. THRIN'CIA. Roth. THRINCIA.

Involucre imbricated, of several linear, unequal scales. Head of numerous ligulate, abrupt, 5-toothed corollas. Filaments capillary; anthers united. Germen oblong; style filiform: stigmas recurved. Achene oblong, tapering into a beak, the outer enveloped by the scales of the involucre. Pappus plumose, but of the marginal florets forming a scaly cup. Receptacle naked.—Name from θρινκος, a battlement. 405.

1. Th. hir'ta. Roth. *Hairy Thrincia.* Stalks leafless, 1-headed; leaves toothed, rough; involucre nearly smooth; outer row of

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achenes crowned with scales.——*Root* abrupt: flowers yellow. Perennial: flowers in July and August: grows in gravelly pastures and on moors: common. *Eng. Bot.* vol. viii. pl. 554. *Eng. Fl.* vol. iii. p. 352. 1139.

5. APAR'GIA. Schreb. HAWKBIT.

Involucre double; the inner oblong, imbricated, of several linear, parallel, unequal scales; the outer very small, of irregularly scattered scales. Anthodium of numerous, imbricated, uniform, perfect, ligulate, abrupt, 5-toothed florets. Filaments capillary, very short; anthers united into a cylindrical tube. Germen oblong; style filiform, longer than the anthers; stigmas 2, recurved. Achene oblong, striate; pappus sessile, feathery. Receptacle naked, or slightly hairy, dotted. —Name from απο, from, and αργια, idleness. . 406.

1. A. his'pida. Willd. *Rough Hawkbit.* Stalks leafless, 1-headed; leaves runcinate, rough; florets hairy at their orifice, glandular at the end; seeds all with feathery down.——*Root* tapering, long: leaves hairy on both sides: stalks simple, round, rough: flowers bright-yellow. Perennial: flowers in July: grows in pastures: common. *Eng. Bot.* vol. viii. pl. 554. *Eng. Fl.* vol. iii. p. 351. 1140.

2. A. autumna'lis. Willd. *Autumnal Hawkbit.* Stalk branched, the partial stalks scaly, and swelled under the anthodia; leaves lanceolate, toothed, or pinnatifid, nearly smooth.——*Root* large, tapering: stalks from six inches to two feet high: leaves covered with scattered white hairs: flowers large, yellow. Perennial; flowers in July and August: grows in pastures and meadows, by way-sides and on banks: common. *Eng. Bot.* vol. xii. pl. 830: *Hedypnois autumnalis. Eng. Fl.* vol. iii. p. 353. When the calyx and upper part of the flower-stalk are covered with blackish hairs, it becomes the *A. Taraxici, Dandelion Hawkbit,* of former botanists. *Eng. Bot.* vol. xvi. pl. 1109: *Hedypnois Taraxici. Eng. Fl.* vol. iii. p. 352. 1141.

6. HYPOCHŒ'RIS. Linn. CAT'S-EAR.

Involucre ovate, imbricated, with lanceolate, acute scales, the outer gradually smaller, all permanent. Head of numerous imbricated, uniform, perfect, ligulate, abrupt, 5-toothed florets. Filaments capillary, very short; anthers united into a cylindrical tube. Germen obovate; style filiform, longer than the anthers; stigmas recurved. Achenes oblong, acute, furrowed, rough; pappus feathery, stalked. Receptacle chaffy, with slender, acute scales, as long as the fruits.—Name from υπο, for, and χοιρος, a hog. 407.

1. H. macula'ta. L. *Spotted Cat's-ear.* Stem nearly leafless, commonly simple; leaves oblong, inclining to ovate, undivided, toothed.——*Stem* generally leafless, sometimes with 1 or 2 lanceolate leaves: root-leaves rough, blotched with brown: flowers large, yellow. Perennial: flowers in July: grows in dry pastures and woods: rare. *Eng. Bot.* vol. iv. pl. 225. *Eng. Fl.* vol. iii. p. 374. 1142.

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2. **H. gla'bra.** L. *Smooth Cat's-ear.* Stems branched, somewhat leafy, smooth; leaves toothed or sinuated, smooth.——*Stems* a foot or more high: leaves oblong, hairy: flowers small, bright-yellow: pappus of the central florets only stalked. Annual: flowers from June to September: grows in gravelly pastures: not common. *Eng. Bot.* vol. viii. pl. 575. *Eng. Fl.* vol. iii. p. 375. 1143.

3. **H. radica'ta.** L. *Long-rooted Cat's-ear.* Stems branched, leafless, smooth; leaves runcinate, obtuse, rough; flower-stalks scaly; pappus of all the fruits stalked.——*Root* long and tapering: stems about a foot high, spreading, with a small scale under each branch, and a number of subulate bracts on the hollow, enlarged flower-stalks: flowers large, bright-yellow. Perennial: flowers in July and August: grows in pastures and waste ground: common. *Eng. Bot.* vol. xii. pl. 831. *Eng. Fl.* vol. iii. p. 376. 1144.

7. LACTU'CA. Linn. LETTUCE.

Involucre cylindrical, of numerous, pointed, imbricated, unequal, flat scales, membranous at the margin. Head of flowers imbricated, uniform; florets numerous, perfect, equal, ligulate, abrupt, with 4 or 5 teeth. Filaments capillary; anthers united into a cylindrical tube. Germen subovate; style filiform, as long as the stamens; stigmas 2, reflexed. Achenes ovate, furrowed, roughish, compressed. Pappus simple, stalked. Receptacle naked, dotted.—Name, from *lac*, milk, on account of its white juice. 408

1. **L. viro'sa.** L. *Strong-scented Lettuce.* Leaves horizontal, toothed; their keel prickly.——*Stem* two or three feet high, erect, round, smooth: root-leaves numerous, obovate, stem-leaves smaller, frequently lobed, sagittate and embracing at the base: flowers numerous, pale-yellow, panicled. The whole plant abounds with an acrid milky juice, having the narcotic properties of opium. Biennial: flowers in August and September: grows in borders of fields, and about hedges and old walls: frequent in England, rare in Scotland. *Eng. Bot.* vol. xxviii. pl. 1957. *Eng. Fl.* vol. iii. p. 345. 1145.

2. **L. Scari'ola.** L. *Prickly Lettuce.* Leaves perpendicular, sinuate, finely toothed, their keel prickly.——*Stem* two or three feet high, erect, panicled: leaves variously pinnatifid and sinuate: flowers pale-yellow. It abounds in acrid milky fluid like the last. Perennial: flowers in August: grows in waste ground and the borders of fields, in Essex, Cambridge, and the Southern counties. *Eng. Bot.* vol. iv. pl. 268. *Eng. Fl.* vol. iii. p. 346. 1146.

3. **L. salig'na.** L. *Least Lettuce.* Leaves linear, hastate, sessile, their keel prickly.——*Stem* two feet high, waved: leaves embracing the seem: flowers pale-yellow: milky. Biennial: flowers in August: grows in waste ground near salt marshes, in the south-east of England; rare. *Eng. Bot.* vol. x. pl. 707. *Eng. Fl.* vol. iii. p. 347. 1147.

4. **L. mura'lis.** L. *Less Ivy-leaved Lettuce.* Florets 5; leaves runcinate; beak of the fruit short.——*Stem* a foot high, round, hollow, panicled above: leaves embracing the stem: flowers erect, bright-yellow, with a purplish involucre. Perennial: flowers in July: grows on old walls and rocks: common. *Eng. Bot.* vol. vii. pl. 457. *Eng. Fl.* vol. iii. p. 348. 1148.

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8. SON'CHUS. Linn. SOW-THISTLE.

Involucre swelled at the base, of numerous linear, imbricated, unequal scales. Florets numerous, perfect, equal, ligulate, abrupt, with 4 or 5 teeth. Filaments 5, capillary, very short, anthers united into a cylindrical tube. Germen subovate; style filiform, as long as the stamens; stigmas 2, reflexed. Achenes oblong, roughish, inclosed by a permanent involucre, which converges into a globular, pointed form: pappus of many simple hairs, sessile, very soft. Receptacle naked, dotted.—Name from σομφος, hollow. 409.

1. **S. palus'tris.** L. *Tall Marsh Sow-thistle.* Flower-stalks and involucre bristly, somewhat umbellate; leaves runcinate, rough-edged, sagittate at the base.——*Stem* from four to eight feet high: angular, hollow: leaves large, smooth: panicles terminal, somewhat umbellate: flowers pale-yellow. Perennial: flowers in July and August: grows in marshy places and on the banks of rivers in England: rare. *Eng. Bot.* vol. xiii. pl. 935. *Eng. Fl.* vol. iii. p. 342. 1149.

2. **S. arven'sis.** L. *Corn Sow-thistle.* Flower-stalks and involucre bristly, somewhat umbellate: leaves runcinate, finely toothed: cordate at the base; root creeping.——*Stem* three or four feet high, round, hollow, rough above with black hairs: flowers large, deep-yellow. Perennial: flowers in August: grows in corn-fields and hedges: common. *Eng. Bot.* vol. x. pl. 674. *Eng. Fl.* vol. iii. p. 342. 1150.

3. **S. olera'ceus.** L. *Common Sow-thistle.* Flower-stalks cottony, cymose; involucre smooth; leaves runcinate, toothed.——*Stem* from one to two feet high, round, smooth, hollow: corolla pale-yellow. Subject to numberless variations, but in all its states easily distinguishable. Annual: flowers from June to October: grows in cultivated ground, the borders of fields, waste places, and hedges: common. *Eng. Bot.* vol. xii. pl. 843. *Eng. Fl.* vol. iii. p. 343. A kind of variety, which graduates into the common form, so as to leave no line of separation, is considered by some as a species, and named *S. asper.* It has the flower-stalks cymose or sub-umbellate; the involucre smooth; the leaves entire, or pinnatifid, or runcinate, with rounded basal auricles, and acutely toothed. *S. asper,* Hoffm. Bab. Hook. *Eng. Bot. Suppl.* pl. 2765. 1151.

9. MULGE'DIUM. Cass. BLUE SOW-THISTLE.

Involucre double, inner of one row of equal scales, outer of short, lax, imbricated scales. Florets numerous, perfect, ligulate, abrupt, toothed. Filaments 5, capillary; anthers united; stamen oblong; style filiform; stigmas reflexed. Achenes compressed, constructed above the seed, and terminated by a ciliated disk. Receptacle naked.—Name from *mulgeo,* to milk, on account of its milky juice. 410.

1. **M. alpi'num.** Less. *Alpine Blue Sow-thistle.* Flower-stalks and calyx bristly: leaves somewhat lyrate, their terminal lobe triangular and very large.——*Stems* three feet high, erect, furrowed, smooth below, hairy above: flowers large, numerous, purplish-blue.

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Perennial: flowers in July and August: grows in rocky places, in Glen Dole and Glen Isla, Forfarshire, and on Lochnagar, Aberdeenshire. *Eng. Bot.* vol. xxxiv. pl. 2425. *Eng. Fl.* vol. iii. p. 341. 1152.

10. HIERA'CIUM. Linn. HAWKWEED.

Involucre subovate, imbricated, of numerous, linear, very unequal scales. Anthodium of numerous, imbricated, uniform, perfect, ligulate, abrupt, 5-toothed florets. Filaments capillary, very short; anthers united into a cylindrical tube, much shorter than the floret. Germen subovate; style filiform, as long as the stamens; stigmas 2, reflexed. Achene ovate or oblong, angular; pappus sessile, capillary, uniform. Receptacle convex, naked or nearly so, dotted.—Named from ἱέραξ, a hawk. 411.

1. H. Pilosel'la. L. *Mouse-ear Hawkweed.* Stalk leafless, 1-headed: leaves between elliptical and lanceolate, entire, white, and downy beneath; scions creeping.——*Readily* distinguished by its scions and pale-yellow flowers. Perennial: flowers in June and July: grows in dry pastures: common. *Eng. Bot.* vol. xvi. pl. 1093. *Eng. Fl.* vol. iii. p. 356. 1153.

2. H. auranti'acum. L. *Orange Hawkweed.* Leaves elliptical, acute, entire; stalk often bearing 1 or 2 leaves at the bottom, hairy, corymbose, many-flowered; involucre covered with long hairs.——*Stalk* about a foot high, with several deep orange-coloured anthodia: leaves rough with short hairs. Perennial: flowers in June and July: grows in woods, but is probably not indigenous: rare. *Eng. Bot.* vol. xxi. pl. 1469. *Eng. Fl.* vol. iii. p. 358. 1154.

3. H. alpi'num. L. *Alpine Hawkweed.* Stem with one or few leaves, and one or few heads, hairy; leaves oblong, hairy; heads with the involucre loosely imbricated, clothed with long silky hairs.——*Plant* covered with long whitish hairs: stalk about six inches high: anthodium large, bright-yellow. Perennial: flowers in July: grows on the higher mountains of Scotland and Wales: frequent. *Eng. Bot.* vol. xvi. pl. 1110. *Eng. Fl.* vol. iii. p. 355. 1155.

4. H. nigres'cens. Willd. *Black-headed Hawkweed.* Stem with one or few leaves, and one or few heads, hairy; leaves ovate or lanceolate, the lower tapering into the petiole; heads with the involucre closely imbricated, clothed with black hairs.——*Probably* a variety of the last, differing chiefly in having the involucre black, with hairs of that colour, slightly intermixed with pale or pale-tipped hairs, the reverse being the case in *H. alpinum*.——Perennial: flowers in July and August: grows on high mountains in Forfarshire and Aberdeenshire; also on Helvellyn. *H. pulmonarium*, Sm. *Eng. Bot.* pl. 2307. 1156.

5. H. pal'lidum. Biv. *Pale Hawkweed.* Stem with one or few leaves, and one or few heads; leaves ovate, elliptical, or lanceolate, dentate, the lower tapering downwards; heads with the involucre closely imbricated, clothed with stellate down, white hairs, and blackish setæ.——*Stem* frequently with only one head; flowers pale-yellow; leaves with the teeth pointing forward. Perennial: flowers in July and August: grows in mountainous tracts in Scotland, and in Tees-

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dale. *H. pallidum*, Hook. and Arn. *H. Halleri*, Hook. *Fl. Lond.* pl. 215. *H. villosum*. *Eng. Bot.* pl. 2379. 1157.

6. **H. muro'rum.** L. *Broad-leaved Wall Hawkweed.* Stem corymbose with a single leaf; leaves ovate, or cordate, waved, toothed at the base.——*Leaves* hairy, often purplish at the back, their teeth spreading, at the base deflexed: stems erect, from twelve to eighteen inches high, round, hairy, bearing 4 or 5 large yellow flowers: flower-stalks and involucre rough with black glandular hairs. Perennial: flowers in June: grows on rocks, debris, and old walls: common. *Eng. Bot.* vol. xxix. pl. 2082. *Eng. Fl.* vol. iii. p. 359. 1158.

7. **H. pulmona'rium.** L. *Lungwort Hawkweed.* Stem somewhat corymbose, slightly leafy, solid; leaves lanceolate, deeply and unequally toothed, the teeth directed forwards.——*Stem* about a foot high, round, striate: panicle of from 2 to 6 flowers, their stalks and calyx rough with black glandular hairs. Perennial: flowers in July: grows on rocks and woods in the mountainous parts of Scotland. *Eng. Fl.* vol. iii. p. 362. 1159.

8. **H. Lawso'ni.** Sm. *Glaucous Hairy Hawkweed.* Stem more or less branched, solid, slightly leafy; root-leaves stalked, ovato-lanceolate, glaucous, fringed, slightly toothed.——*Stems* about a foot high, round, smooth: flower-stalks bristly and downy: flowers 3 or 4, bright-yellow. Perennial: flowers in July: grows on rocks: not common. *Eng. Bot.* vol. xxix. pl. 2083. *Eng. Fl.* vol. iii. p. 362. 1160.

9. **H. sylva'ticum.** L. *Wood Hawkweed.* Stem racemose, many-leaved, solid; leaves between ovate or lanceolate, toothed, chiefly at the base, the teeth directed forwards.——*Stem* twelve or eighteen inches high, erect, striated, panicled above; root-leaves on long hairy stalks, upper stem-leaves nearly sessile: flower-stalks and involucre rough, with short black hairs: flowers bright-yellow. Perennial: flowers in June and July: grows in woods, and on dry banks and old walls: common. *H. vulgatum.* Fries. *Eng. Bot.* vol. xxix. pl. 2031. It graduates into *H. murorum*, of which it is probably only a variety. On the other hand it passes into *H. maculatum* of Smith: *Spotted Hawkweed.* Stem cymose, many-leaved, hollow; leaves between ovate and lanceolate, strongly-toothed, the teeth directed forwards.——*Stem* from one to three feet high, hairy: leaves more or less speckled with dark-purple, pale beneath: flower-stalks and calyx covered with whitish cottony or mealy down, mixed with black glandular hairs: flowers bright-yellow. Perennial: flowers from June to September: grows on the mountains of Scotland, Westmoreland, and Wales: common. *Eng. Bot.* vol. xxx. pl. 2121. *Eng. Fl.* vol. iii. p. 360. 1161.

10. **H. cerintho'ides.** L. *Honey-wort-leaved Hawkweed.* Stem corymbose, hairy, somewhat angular, leafy, solid; leaves hairy, slightly toothed, the upper ovate, embracing the stem, the lower between oblong and obovate, with fringed stalks.——*Stem* nearly two feet high, erect, angular, smooth: flower-stalks covered with glandular bristles: calyx hairy: flowers bright-yellow. Perennial: flowers in August: grows on rocks in the Highlands of Scotland, ac-

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cording to Mr. G. Don. *Eng. Bot.* vol. xxxiv. pl. 2378. *Eng. Fl.* vol. iii. p. 365. 1162.

11. **H. amplexicau'le.** L. *Amplexicaul Hawkweed.* Stem corymbose; leaves toothed, lower ones oblong, ovate, stalked, upper cordate at the base, and clasping the stem.——*Stems* about a foot high, clothed with dense hairs: heads numerous: flowers yellow. Perennial: flowers in August: grows on the walls of Oxford Botanic Garden: but is not considered indigenous. *Eng. Bot. Suppl.* pl. 2690. *Brit. Fl.* 4th ed. p. 295. 1163.

12. **H. borea'le.** Fr. *Shrubby Broad-leaved Hawkweed.* Stem panicled, many-headed, with numerous broadly lanceolate, acutely-toothed, rough-edged, somewhat embracing leaves, hairy beneath.——*Stems* two or three feet high, erect, furrowed, hairy: leaves ovato-lanceolate or elliptico-lanceolate, the upper sessile with the base rounded or cordate: heads of flowers numerous, golden-yellow. Perennial: flowers in August and September: grows in woods and thickets: frequent. *H. Subaudum.* Sm. *Eng. Bot.* vol. v. pl. 349. *Eng. Fl.* vol. iii. p. 367. *H. boreale,* Hook. and Arn. 1164.

13. **H. prenantho'ides.** Vill. *Rough-bordered Hawkweed.* Stem erect, solid, leafy, many-flowered, corymbose; leaves somewhat toothed, embracing the stem, rough near the edge, glaucous beneath, the upper ones cordate.——*Stem* from two to three feet high: heads of flowers small, bright-yellow, in a corymbose panicle: their stalks and calyx rough with glandular hairs. Perennial: flowers in August: grows in woods and thickets in Scotland: rare. *Eng. Bot.* vol. xxxii. pl. 2235. *Eng. Fl.* vol. iii. p. 388. To this species is referred *H. denticulatum,* Sm. Stem erect, solid, leafy, many-flowered, cymose; leaves sessile, lanceolate, inclining to elliptical, minutely toothed, smoothish, glaucous beneath.——*Stem* about three feet high: flowers bright-yellow, in a cymose panicle: stalks and calyx downy and glandular. Perennial: flowers in August and September: grows in woods in Scotland: frequent. *Eng. Bot.* vol. xxx. pl. 2122. *Eng. Fl.* vol. iii. p. 368. 1165.

14. **H. umbella'tum.** L. *Narrow-leaved Hawkweed.* Stem erect, nearly solid, leafy, imperfectly umbellate; leaves numerous, scattered, between linear and lanceolate, slightly toothed, nearly smooth; flower-stalks downy; involucre smooth.——*Stem* two or three feet high, slightly hairy: flowers bright-yellow. Perennial: flowers in August and September: grows in woods and rocky places: not common. *Eng. Bot.* vol. xxv. pl. 1171. *Eng. Fl.* vol. iii. p. 233. 1166.

11. LEON'TODON. Linn. DANDELION.

Involucre oblong, double; the inner of several linear, equal, parallel scales; the outer of fewer and shorter ones. Anthodia of very numerous, imbricated, equal, perfect, ligulate, abrupt, 5-toothed florets. Filaments capillary, short; anthers united into a cylindrical tube. Germen obovate, furrowed; style cylindrical, longer than the stamens; stigmas 2, revolute. Achenium obovate, furrowed; pappus simple, very soft, on a cylindrical stalk. Receptacle naked, convex, dotted.—Name from λεων, a lion, and ὀδους, a tooth, on account of the jagged leaves. 412.

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1. L. **Taraxa'cum.** L. *Common Dandelion.* Outer scales of the calyx loose and reflexed; leaves runcinate, smooth.——*Flowers* large, yellow, a single one on each tubular stalk. Bitter, but not disagreeably so; may be used as salad: the roots have been employed as a substitute for coffee. Perennial: flowers from March to August: grows on pastures, on banks, and by roads and walls: common. *Eng. Bot.* vol. viii. pl. 510. *Eng. Fl.* vol. iii. p. 349. 1167.

2. L. **palus'tre.** Sm. *Marsh Dandelion.* Outer scales of the calyx close-pressed and erect; leaves lanceolate, between sinuate and toothed, nearly smooth.——*Much* smaller than the last. Perennial: flowers in May and June: grows generally in marshy places, sometimes in dry pastures, but always in ground that has not been subjected to cultivation. In many districts of Scotland, and especially in the Hebrides, it is much more common than the other species, of which, however, it seems to be the original. *Eng. Bot.* vol. viii. pl. 553. *Eng. Fl.* vol. iii. p. 350. 1168.

12. BORKHAU'SIA. Mœnch. BORKHAUSIA.

Involucre ovate, with deciduous subulate scales. Head of numerous uniform, perfect, ligulate, abrupt, 5-toothed florets. Filaments capillary; anthers united into a cylindrical tube. Germen oblong; style filiform; stigmas reflexed. Achenes cylindrical, transversely wrinkled, with a long tapering beak. —Named after Moritz *Borkhausen,* a German botanist. 413.

1. B. **fœ'tida.** L. De C. *Stinking Borkhausia.* Leaves hairy, pinnatifid; their stalks toothed; stem hairy; involucre downy.——*Stems* a foot high, spreading, the central one erect: flowers several, solitary, pale-yellow. The leaves smell like bitter almonds. Biennial: flowers in June and July: grows in dry ground in England: rare. *Eng. Bot.* vol. vi. pl. 406. *Eng. Fl.* vol. iii. p. 370. 1169.

2. B. **taraxicifo'lia.** De C. *Smaller Rough Borkhausia.* Leaves scabrous, pinnatifid, sessile; involucre bristly and downy, its outer scales ovato-lanceolate, membranaceous on the margins.——*Stem* from one to two feet high, angular, hispid, corymbose; leaves lyrato-runcinate, or pinnatifid; those on the stem few, clasping, toothed. Biennial: flowers in June and July: grows in dry pastures in the south of England. *Crepis biennis. Eng. Bot.* pl. 149. *Crepis taraxicifolia. Eng. Bot. Suppl.* pl. 2929. 1170.

13. CRE'PIS. Linn. HAWK'S-BEARD.

Involucre double; the outer very short, loose, swelled, deciduous; the inner ovate, simple, furrowed, permanent, of several linear, parallel scales. Anthodium of numerous, imbricated, uniform, perfect, ligulate, abrupt, 5-toothed florets. Filaments capillary, very short; anthers united into a cylindrical tube. Germen subovate; style filiform, as long as the stamens; stigmas reflexed. Achenes oblong; pappus pilose, soft, copious, stalked, or sessile. Receptacle slightly scaly.—Name from κρηπις, a slipper. 414.

1. C. **vi'rens.** L. *Smooth Hawk's-beard.* Root-leaves runcinate;

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stem-leaves lanceolate, toothed, embracing; stem smooth; involucre rough; pappus sessile.——*Stem* from one to two feet high: leaves smooth: panicle slender. corymbose: flowers small, bright-yellow. Annual: flowers from June to October: grows in dry pastures and waste grounds, on walls and roofs: common. *Eng. Bot.* vol. xvi. pl. 1111. *C. tectorum. Eng. Fl.* vol. iii. p. 372. 1171.

2. C. bien'nis. L. *Rough Hawk's-beard.* Lower leaves runcinate; stem-leaves pinnatifid, clasping; all rough with bristly hairs; involucre somewhat bristly.——*Stem* three or four feet high, erect, corymbose: flowers pale-yellow. Biennial: flowers in June and July: grows in dry pastures in England: rare. *Eng. Bot. Suppl.* pl. 2929. fig. 6. 1172.

3. C. succisœfo'lia. Tausch. *Succory-leaved Hawk's-beard.* Stem corymbose, angular, hollow, leafy, downy; leaves lanceolate, slightly-toothed, hairy, clasping the stem; the lower ones stalked, very obtuse. ——*Stem* twelve or eighteen inches high, erect, hairy: flowers golden-yellow. Perennial: flowers in July and August: grows in woods in Scotland: rare. *Hieracium molle.* Jacq. Sm. *Eng. Bot.* vol. xxxi. pl. 2210. *Eng. Fl.* vol. iii. p. 364. 1173.

4. C. paludo'sa. L. Mœnch. *Marsh Hawk's-beard.* Stem corymbose, angular, hollow, leafy, smooth; leaves smooth, toothed, embracing the stem with their cordate base; involucre hairy.——*Stem* erect, smooth, from one to two feet high: flower-stalks smooth: involucre covered with greenish-brown hairs: flowers bright-yellow. Perennial: flowers in July: grows by the sides of rivers and in marshy places: frequent. *Hieracium p.* L. *Eng. Bot.* vol. xvi. pl. 1094. *Eng. Fl.* vol. iii. p. 232. 1174.

14. CICHO'RIUM. Linn. SUCCORY.

Involucre double, cylindrical; the outer of a few oblong, shortish scales; the inner of about 8 linear, equal, permanent scales. Anthodium of about 20 ligulate, abrupt, deeply 5-toothed, perfect florets. Filaments capillary, very short; anthers united into a 5-cornered tube. Germen ovate; style filiform, as long as the stamens; stigmas revolute. Achene obscurely 5-sided, abrupt; pappus of several chaffy, erect bristles, shorter than the fruit. Receptacle somewhat chaffy. —Name, Arabic, *chikouryeh.* 415.

1. C. In'tybus. L. *Wild Succory.* Heads of flowers in pairs, sessile; leaves runcinate.——*Stem* two or three feet high, round, rough, branched: heads large, light-blue, axillar; the roots are eatable, and have also been used as a substitute for coffee. Perennial: flowers in July and August: grows in borders of fields and by roads: frequent. *Eng. Bot.* vol. viii. pl. 539. *Eng. Fl.* vol. iii. p. 379. 1175.

15. LAPSA'NA. Linn. NIPPLE-WORT.

Involucre double, ovate; the outer of a few small, scattered, close scales; the inner of about 8 linear, channelled, keeled, acute, nearly equal scales. Anthodium of about 16 imbricated, uniform, perfect, ligulate, abrupt, 5-toothed florets. Filaments capillary, very short; anthers united into a cylindri-

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cal tube. Germen obovate, small; style filiform, as long as the stamens; stigmas spreading. Achene oblong, angular, furrowed, smooth. Pappus none, or merely a border. Receptacle naked, flat, narrow.—Name from λαπαζω, to purge. 416.

1. **L. commu'nis.** L. *Common Nipple-wort.* Involucre of the fruit angular; stem panicled; flower-stalks filiform; leaves ovate, stalked, angularly toothed.——*Stem* from one to three feet high, much branched: leaves generally approaching to lyrate, with the terminal lobe very large, downy: heads of flowers small, yellow. Annual: flowers in July and August: grows in waste places and cultivated ground: common. *Eng. Bot.* vol. xii. pl. 844. *Eng. Fl.* vol. iii. p. 377. 1176.

2. **L. pusil'la.** Willd. *Dwarf Nipple-wort.* Scape branched, swelled and hollow at the top; leaves obovate, smooth, rough-edged. ——*Stalks* six or eight inches high: flowers small, bright-yellow: pappus a short, entire border. Annual: flowers in June: grows in gravelly fields: not common. *Eng. Bot.* vol. ii. pl. 95. *Eng. Fl.* vol. iii. p. 377. 1177.

16. ARCTIUM. Linn. BURDOCK.

Involucre globular, imbricated, of numerous lanceolate scales, ending in subulate, hooked, thorny points, permanent. Anthodium of numerous, perfect, equal florets, with a very long slender tube, and a wider ovate limb, divided into 5 linear, regular, spreading segments. Filaments capillary, very short; anthers forming a cylindrical, 5-toothed tube, as long as the corolla. Germen oblong, downy at the summit; style filiform, longer than the stamens; stigmas reflexed. Achene inversely pyramidal, with 4 unequal obtuse angles; pappus simple, rough, shorter than the seed. Receptacle flat, covered with linear, chaffy scales, nearly as long as the calyx.—Name from αρκτος, a bear. 417.

1. **A Lap'pa.** L. *Burdock. Clot-bur.* Leaves cordate, stalked. ——*Stem* about three feet high, branched, furrowed: leaves hoary beneath: flowers axillar, purple. Biennial: flowers in July and August: grows in pastures and waste ground: common. The involucre is at first more or less covered with a substance resembling cobwebs, which afterwards, especially in rainy weather, disappears. When it is smooth, the plant has been named *A. Lappa*; when downy, *A. Bardana.* *Eng. Bot.* vol. xviii. pl. 1228, and vol. xxxv. pl. 2478. *Eng. Fl.* vol. iii. p. 380, 381. 1178

17. SERRA'TULA. Linn. SAW-WORT.

Involucre oblong, nearly cylindrical, imbricated, of numerous lanceolate scales, permanent. Anthodium uniform, of numerous, perfect, equal, funnel-shaped florets, their limb divided into 5 equal segments. Filaments capillary, very short; anthers united into a cylindrical tube, as long as the corolla. Germen obovate; style filiform, as long as the stamens; stigmas oblong, reflexed. Achene obovate, somewhat angular; pappus sessile,

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rough or feathery, permanent. Receptacle chaffy, or hairy, flat.—Name from *serra*, a saw. 418.

1. S. tincto'ria. L. *Common Saw-wort.* Leaves pinnatifid, somewhat lyrate, with bristly serratures; pappus roughish.——*Stems* two or three feet high, erect, stiff, branched at the top: flowers purple. Is used for dyeing cloth yellow. Perennial: flowers in July and August: grows in woods, thickets, and pastures: frequent. *Eng. Bot.* vol. i. pl. 38. *Eng. Fl.* vol. iii. p. 382. 1179.

18. SAUSSU'REA. De Cand. SAUSSUREA.

Involucre oblong, imbricated, of numerous unarmed scales, permanent. Anthodium uniform, of numerous perfect, funnel-shaped florets, their limb divided into 5 unequal segments. Filaments capillary, short; anthers united into a cylindrical tube, and having long acute appendages at the apex, and ciliated bristles at the base. Germen oblong; style filiform; stigmas oblong, reflexed. Achene oblong, glabrous. Pappus sessile, double, the outer of short, rough bristles, the inner feathery, deciduous. Receptacle chaffy or hairy.—Named after the two *Saussures.* 419.

1. S. alpi'na. De C. *Alpine Saussurea.* Leaves undivided, broadly lanceolate, toothed, cottony beneath; calyx hairy.——*Stems* nearly a foot high, erect, unbranched, woolly: flowers purple, large. Perennial: flowers in July and August: grows on the sides of mountains in Scotland and Wales: frequent. *Eng. Bot.* vol. ix. pl. 599. *Eng. Fl.* vol. iii. p. 383. 1180.

19. CAR'DUUS. Linn. THISTLE.

Involucre swelled, imbricated, of numerous, lanceolate, thorn-pointed scales, permanent. Anthodium uniform, of very numerous, perfect, equal, tubular florets, with a slender recurved tube, the limb ovate at the base, with 5 linear segments, one of which is a little distant from the rest. Filaments capillary, very short; anthers united into a 5-toothed cylindrical tube, about the same length as the corolla. Germen obcordate; style filiform, longer than the corolla; stigma undivided or cleft, oblong. Achene obovate, unequally 4-cornered, with a slender cylindrical point; pappus sessile, capillary, rough, very long. Receptacle flat, hairy.—Name used by the Romans. 420.

* *Leaves decurrent.*

1. C. nu'tans. L. *Musk Thistle.* Leaves interruptedly decurrent; heads solitary, drooping; scales of the involucre lanceolate, cottony, their upper part spreading.——*Stem* two or three feet high, erect, branched: flower-stalks terminal, downy: heads of flowers large, purple, emitting a musky odour. Annual: flowers in July and August: grows in dry pastures, waste grounds, and by roads: frequent. *Eng. Bot.* vol. xvi. pl. 1112. *Eng. Fl.* vol. iii. p. 384. 1181.

2. C. acantho'ides. L. *Welted Thistle.* Leaves decurrent, sinuate, very thorny; flowers several together, shortly stalked; involucre globular, with linear, partly recurved scales.——*Stem* about three

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feet high, much branched: flowers purplish-crimson. Annual: flowers in June and July: grows in waste ground, and by roads and hedges: frequent. *Eng. Bot.* vol. xiv. pl. 973. *Eng. Fl.* vol. iii. p. 385. 1182.

3. **C. tenuiflo'rus.** Curt. *Slender-flowered Thistle.* Leaves decurrent, sinuate, thorny; flowers several together, sessile; calyx somewhat cylindrical, its scales lanceolate, a little recurved at the point. ——*Stem* from two to four feet high, erect: leaves cottony beneath: flowers numerous, pale-purplish. Annual: flowers in July and August: grows in waste places, about towns: very abundant about Edinburgh. *Eng. Bot.* vol. vi. pl. 412. *Eng. Fl.* vol. iii. p. 385. 1183.

** *Leaves not decurrent.*

4. **C. Maria'nus.** L. *Milk Thistle.* Leaves waved, thorny, embracing the stem, root-leaves pinnatifid; scales of the involucre resembling leaves, recurved, channelled, thorny at the edges.——*Stem* four or five feet high, branched; leaves dark-green, their veins bordered with white: flowers large, solitary, purple. Annual: flowers in June and July: grows in waste ground about towns. *Eng. Bot.* vol. xiv. pl. 976. *Eng. Fl.* vol. iii. p. 386. 1184.

20. CNI'CUS. Willd. THISTLE.

Involucre swelled, imbricated, of numerous, lanceolate, thorn-pointed scales, permanent. Anthodium nearly uniform, equal, tubular, funnel-shaped florets, with a slender, recurved tube, the limb ovate at the base, with 5 linear segments. Filaments capillary, very short; anthers united into a 5-toothed cylindrical tube, nearly as long as the corolla. Stigma undivided, or cleft, oblong. Achene obovate, with a slender, cylindrical point; pappus sessile, feathery, very long. Receptacle flat, covered with bristles as long as the tubes of the florets.—Name from κνιζω, to prick. 421.

* *Leaves decurrent.*

5. **C. lanceola'tus.** L. Willd. *Spear Thistle.* Leaves decurrent, bristly, pinnatifid, their segments generally 3-lobed, spreading in different directions, thorny; involucre ovate, woolly, with lanceolate, thorn-pointed scales, spreading above.——*Stem* branched, stout, from one to three feet high: leaves woolly beneath, with a very long and very sharp point: heads of flowers large, purple, single or in pairs. Biennial: flowers in July and August: grows by road-sides, and in waste places, dry pastures, and neglected fields: frequent. *Eng. Bot.* vol. ii. pl. 107: *Carduus lanceolatus.* *Eng. Fl.* vol. iii. p. 388. 1185.

6. **C. palus'tris.** Willd. *Marsh Thistle.* Leaves decurrent, bristly, pinnatifid, thorny; involucre ovate, with broadly lanceolate, minutely thorn-pointed, closely-pressed scales; flowers several together.——*Stem* from three to five feet high, erect, rather slender, covered with short weak thorns: leaves woolly beneath: scales of the involucre purple, keeled near the end with a soft shining substance: flowers purple. Biennial: flowers in July: grows in moist meadows, by ditches and pools: frequent. *Eng. Bot.* vol. xiv. pl. 974: *Carduus palustris.* *Eng. Fl.* vol. iii. p. 388. 1186.

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** *Leaves not decurrent.*

7. **C. arven'sis.** Hoffm. *Field Thistle.* Leaves sessile, pinnatifid, thorny; stem panicled; involucre ovate, with closely-pressed, minutely thorn-pointed scales.——*Stem* from two to four feet high, round, smooth, angular: leaves bare beneath: flower-stalks cottony: flowers pale-purple: varieties occur with the leaves simply sessile or decurrent, entire, sinuate, or pinnatifid. Perennial: flowers in July: grows in corn-fields, pastures, and waste places: common. *Eng. Bot.* vol. xiv. pl. 975. 1187.

8. **C. erio'phorus.** Willd. *Woolly-headed Thistle.* Leaves pinnatifid, with thorny segments pointing two ways, bristly above; involucre globular, densely woolly, with minutely thorn-pointed scales.——*Stem* three feet high, furrowed, slightly hairy: heads numerous, very large, purple. Biennial: flowers in August: grows by roads and in dry pastures: not common. *Eng. Bot.* vol. vi. pl. 386. *Eng. Fl.* vol. iii. p. 390. 1188.

9. **C. tubero'sus.** Willd. *Tuberous Thistle.* Leaves deeply pinnatifid, lobed, fringed with prickles, the lower ones stalked; stem smooth, almost one-flowered; scales of the calyx minutely thorn-pointed, nearly smooth; root creeping, tuberous.——*Stem* two feet high, erect, straight, furrowed, hairy: flower erect, bright-purple. Perennial: flowers in August. Found by Mr. Lambert in a thicket on the Wiltshire downs. *Eng. Bot.* vol. xxxvi. pl. 2562. *Eng. Fl.* vol. iii. p. 391. 1189.

10. **C. heterophyl'lus.** Willd. *Melancholy Thistle.* Leaves embracing the stem, lanceolate, fringed, undivided or pinnatifid, smooth on their upper side, densely cottony beneath; stem downy, almost 1-headed.——*Stem* three feet high, erect, hollow, cottony, bearing a single large head of purple flowers. Perennial: flowers in July and August: grows in moist pastures in Scotland, Wales, and the north of England: frequent. *Eng. Bot.* vol. x. pl. 675: *Carduus heterophyllus. Eng. Fl.* vol. iii. p. 392. 1190.

11. **C. praten'sis.** Huds. Willd. *Meadow Thistle.* Leaves sessile, lanceolate, waved, fringed with unequal thorns, cottony beneath; stem downy, 1-flowered; involucre cottony, its scales lanceolate.——*Stem* about a foot high, furrowed, bearing a single pale-purple head. Perennial: flowers in June and July: grows in moist pastures: not common. *Eng. Bot.* vol. iii. pl. 177: *Carduus pratensis. Eng. Fl.* vol. iii. p. 393. 1191.

12. **C. acau'lis.** Willd. *Dwarf Thistle.* Scape 1-headed, shorter than the smooth involucre.——*Leaves* oblong, pinnatifid, spreading close to the ground: anthodium almost sessile, large, purple. Perennial: flowers in July: grows in dry pastures in England: common in some places. *Eng. Bot.* vol. iii. pl. 161. *Eng. Fl.* vol. iii. p. 394. 1192.

21. ONOPOR'DUM. Linn. COTTON-THISTLE.

Involucre roundish, tumid, imbricated, of numerous lanceolate, thorn-pointed scales, permanent. Anthodium uniform, with very numerous, equal, funnel-shaped corollas; their tube very slender; the limb deeply divided into 5 linear, equal

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segments. Filaments capillary, very short; anthers united into a 5-toothed, cylindrical tube. Germen obovate, short; style filiform, longer than the stamens; stigma oblong, notched. Achene obovate, pointed, smooth; pappus pilose, sessile, rough, deciduous. Receptacle convex, fleshy, deeply cellular, somewhat chaffy.—Name from ονος, an ass. 422.

1. **O. Acan'thium.** L. *Common Cotton-thistle.* Scales of the calyx subulate, spreading in every direction; leaves oblong, inclining to ovate, sinuate, woolly on both sides.——*Stem* four or five feet high, branched, woolly: heads large, purple. Biennial: flowers in July and August: grows in waste ground, and by roads and hedges: frequent. *Eng. Bot.* vol. xiv. pl. 977. *Eng. Fl.* vol. iii. p. 395. 1193.

22. CARLI'NA. Linn. CARLINE-THISTLE.

Involucre cylindrical, somewhat swelled, imbricated, of numerous, loose, acute, permanent scales, the innermost much longer, linear, coloured, spreading horizontally; the outer thorn-pointed. Anthodium uniform, flat, with numerous, equal, funnel-shaped florets; their limb deeply divided into 5 erect segments. Filaments capillary, very short; anthers united into a cylindrical tube, each with 2 deflexed bristles at the base. Germen obovate; style filiform, as long as the anthers; stigma oblong. Achene conical, abrupt, roughish; pappus partly chaffy, partly feathery, permanent. Receptacle flat, covered with linear, chaffy scales, many-cleft at the top.—Named after *Carolus Magnus*, Charlemagne. 423.

1. **C. vulga'ris.** L. *Common Carline-thistle.* Stem corymbose, many-headed; heads terminal; outer scales of the involucre pinnatifid.——*Stem* about a foot high, erect, downy: leaves lanceolate, sinuated, bordered with prickles: flowers red. The heads of flowers, which expand in dry weather, and close before rain, retain this property after they are dried. Biennial: flowers in June: grows in dry sandy pastures and fields: frequent. *Eng. Bot.* vol. xvi. pl. 1144. *Eng. Fl.* vol. iii. p. 397. 1194.

23. BI'DENS. Linn. BUR-MARIGOLD.

Involucre erect, of several oblong, nearly equal, parallel scales, concave or channelled on the back. Anthodium level at the top, of several parallel, perfect, tubular, equal florets; their limb ovate, with 5 marginal spreading segments. Filaments capillary, very short; anthers united into a cylindrical tube. Germen oblong, compressed, with bristly erect points on its outside; style filiform, as long as the stamens; stigmas oblong, reflexed. Achene angular, abrupt, beaked with 2 or more bristles, which are rough with deflexed prickles. Receptacle flat, covered with erect, chaffy, oblong, deciduous scales.—Name from *bis*, double, and *dens*, a tooth. 424.

1. **B. cer'nua.** L. *Nodding Bur-marigold.* Leaves lanceolate, serrate; heads drooping; bracts lanceolate, nearly equal; bristles of the fruit about four, erect.——*Stem* erect, two or three feet high:

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heads of flowers large, yellow. Annual: flowers in September: grows by the sides of ditches and ponds: frequent. *Eng. Bot.* vol. xvi. pl. 1118. *Eng. Fl.* vol. iii. p. 399. 1195.

2. **B. triparti'ta.** L. *Three-cleft Bur-marigold.* Leaves divided into three segments; bracts lanceolate, unequal; bristles of the fruit 2 or three.——*Stem* two or three feet high: flowers brownish-yellow. Annual: flowers in August and September: grows about the sides of ditches and ponds: frequent. *Eng. Bot.* vol. xvi. pl. 1113. *Eng. Fl.* vol. iii. p. 398. 1196.

24. DIO'TIS. Desf. COTTON-WEED.

Involucre hemispherical, imbricated, with oblong, obtuse scales. Anthodium uniform, level, of numerous, perfect, regular florets, about the length of the calyx; their limb with 5 broadish spreading segments; the tube contracted at the top, elongated at the base into 2 honey-bearing spurs, finally separating and remaining attached to the germen. Filaments capillary, very short; anthers united into a cylindrical tube, as long as the corolla. Germen oblong, slender; style filiform, as long as the stamens; stigmas obtuse, spreading. Achene oblong, compressed, bordered at each side with the spurs of the corolla; pappus none. Receptacle convex, covered with oblong, hair-tipped scales.—Name from δις, two, and ους, an ear, in allusion to the fruit. 425.

1. **D. mari'tima.** L. *Sea Cotton-weed.*——*The* whole plant white and cottony: stems about a foot high, branched: leaves lanceolate, obtuse, crenate: flowers yellow. Perennial: flowers in August and September: grows in sand on the sea-coast of the south of England: not common. *Santolina m.* Linn. *Eng. Bot.* vol. ii. pl. 141. *Eng. Fl.* vol. iii. p. 403. 1197.

25. EUPATO'RIUM. Linn. HEMP AGRIMONY.

Involucre oblong, imbricated, with lanceolate, unequal, erect, thornless scales. Anthodium uniform, level, of a few perfect, regular, funnel-shaped florets. Filaments capillary, very short; anthers united, with a cylindrical tube, as long as the corolla. Germen small, oblong, angular; style filiform, very long, cleft as far down as the anthers; stigmas oblong, downy, spreading. Achene oblong, angular; pappus sessile, rough or feathery, permanent. Receptacle naked, small.—Named after *Eupator*, a king of Pontus. 426.

1. **E. cannabi'num.** L. *Hemp Agrimony.* Leaves divided into 3 or 5 lanceolate segments, the middle one longest.——*Stems* two or three feet high, erect, branched, downy: heads of flowers reddish-purple, in terminal tufts. Perennial: flowers in July and August: grows about the banks of rivers and lakes: not common. *Eng. Bot.* vol. vi. pl. 428. *Eng. Fl.* vol. iii. p. 400. 1198.

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26. CHRYSO'COMA. Linn. GOLDILOCKS.

Involucre hemispherical, imbricated, of numerous narrow lanceolate, pointed, thornless scales. Anthodium uniform, of several tubular, perfect, regular florets. Filaments capillary, very short; anthers united into a cylindrical, 5-pointed tube, shorter than the corolla. Germen oblong; style filiform, as long as the corolla; stigmas oblong, spreading. Seed obovate, compressed; pappus sessile, rough, permanent. Receptacle flat, slightly cellular, naked.—Name from χρυσος, gold, and κομη, the hair. 427.

1. Ch. Linosy'ris. L. *Flax-leaved Goldilocks.* Herbaceous; leaves linear, smooth; scales of the involucre spreading.——*Stems* a foot high, erect, stiff, unbranched: flowers bright yellow, in a corymbose terminal tuft. Perennial: flowers in August and September: grows on rocks by the sea in several places in the south-west of England. *Eng. Bot.* vol. xxxv. pl. 2505. *Eng. Fl.* vol. iii. p. 402. 1199.

POLYGAMIA SUPERFLUA.

27. TANACE'TUM. Linn. TANSY.

Involucre hemispherical, imbricated, of numerous oblong, close scales, the innermost membranous at the edges. Anthodium of two kinds of florets; those of the disk numerous, perfect, tubular, regular, with a 5-cleft limb; those of the ray few, without stamens, tubular at the base, with a flat 3 cleft limb. Filaments capillary, very short; anthers united into a cylindrical tube. Germed obovate, compressed; style filiform, as long as the stamens; stigmas obtuse, recurved. Achene oblong, angular, crowned with a slight membranous border. Receptacle convex, dotted, naked.—Name altered from *athanasia*, undying. 428.

1. T. vulga're. L. *Common Tansy.* Leaves pinnatifid, deeply serrate.——*Stems* two or three feet high, terminating in a corymb of heads with yellow flowers. The whole plant is bitter, and the "seeds" are said to expel intestinal worms. Perennial: flowers in July and August: grows in the borders of fields, and by roads: common. *Eng. Bot.* vol. xviii. pl. 1229. *Eng. Fl.* vol. iii. p. 405, 1200.

28. ARTEMI'SIA. Linn. WORMWOOD.

Involucre roundish, imbricated, of rounded close scales, membranous at the edges. Anthodium of two kinds of florets: those of the disk numerous, perfect, tubular, their limb with 5 segments; those of the ray few, destitute of stamens, generally without a petal, or subulate, entire. Filaments capillary, very

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short; anthers united into a cylindrical tube. Germen small, ovate; style filiform, as long as the stamens; stigmas involute. Achene obovate; pappus none. Receptacle nearly flat, naked or hairy. Named after *Artemis*, or Diana. 429.

1. **A. campes'tris.** L. *Field Southernwood.* Leaves divided into many linear segments; stems at first prostrate, after flowering erect. ——*Nearly* two feet high: leaves smooth on the upper side, downy beneath: heads of flowers drooping, small, yellow, in slender, terminal, leafy clusters. Perennial: flowers in August: grows on sandy heaths, in Norfolk and Suffolk. *Eng. Bot.* vol. v. pl. 338. *Eng. Fl.* vol. iii. p. 406. 1201.

2. **A. mari'tima.** L. *Drooping-flowered Sea-wormwood.* Leaves pinnatifid, the uppermost undivided, downy; clusters drooping; heads of flowers drooping, oblong, downy; receptacle naked.——*Stems* woody, furrowed, hoary; heads of flowers yellow, in leafy clusters. Perennial: flowers in August: grows on the sea-shore. *Eng. Fl.* vol. iii. p. 407. A variety, with the clusters of flowers erect, is the *A. Gallica, Upright-flowered Sea-wormwood. Eng. Bot.* vol. xiv. pl. 1001. *Eng. Fl.* vol. iii. p. 408. 1202.

3. **A. Absin'thium.** L. *Common Wormwood.* Leaves divided into many deep flat segments, downy; heads of flowers drooping, hemispherical; receptacle hairy.——*Stems* about a foot high, bushy, furrowed: leaves twice pinnatifid: heads of flowers pale yellow, in leafy clusters. The whole plant is intensely bitter, aromatic, and somewhat nauseous. Infusion of the leaves is considered a good stomachic, and the essential oil is used for destroying worms. Perennial: flowers in August: grows in waste ground, near houses: frequent. *Eng. Bot.* vol. xviii. pl. 1230. *Eng. Fl.* vol. iii. p. 408. 1203.

4. **A. vulga'ris.** L. *Mugwort.* Leaves pinnatifid, flat, cut, downy beneath; clusters simple; heads of flowers ovate; receptacle naked. ——*Stems* from two to four feet high, erect, branched, panicled, smooth: leaves dark-green above, white and downy beneath: clusters erect, leafy: flowers purplish. Slightly bitter and aromatic. Perennial: flowers in July and August: grows about hedges and walls: common. *Eng. Bot.* vol. xiv. pl. 978. *Eng. Fl.* vol. iii. p. 409. 1204.

29. ANTENNA'RIA. Gærtn. EVERLASTING.

Diœcious. Involucre oblong, imbricated, the inner scales coloured or scariose at the tip. Staminiferous florets tubular, with the margin 5-cleft; fertile florets ligulate. Filaments 5, capillary, short; anthers united, and having bristles at the base. Germen obovate; style filiform, with 2 spreading stigmas. Achene obovate. Pappus pilose, of the sterile heads thickened or subplumose upwards.—Name from the hairs of the pappus resembling antennæ of insects. 430.

1. **A. dio'ica.** L. Gærtn. *Mountain Everlasting.* Shoots procumbent; stem simple; corymb simple.——*Stems* solitary, from four to six inches high, cottony: leaves scattered, greenish above, white beneath, lanceolate: flowers white or rose-coloured. Peren-

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nial: flowers in June and July: grows on dry heaths and in rocky places: common in mountainous districts. *Eng. Bot.* vol. iv. pl. 267. *Eng. Fl.* vol. iii. p. 413. 1205.

2. **A. margarita'cea.** L. R. Br. *Pearly Everlasting.* Leaves linear-lanceolate, acutely pointed, alternate, loosely cottony above, densely beneath; stem branched at the upper part; heads of flowers corymbose.——*Stems* two feet high, erect, cottony: heads of flowers numerous, with white involucres. Perennial; flowers in August: grows in moist meadows in the south of England and Wales, but is not indigenous, having been introduced from America. *Eng. Bot.* vol. xxix. pl. 2018. *Eng. Fl.* vol. iii. p. 412. 1206.

30. GNAPHA'LIUM. Linn. CUDWEED.

Involucre roundish, imbricated, with membranous, coloured scales. Anthodium with the florets of the disk perfect, tubular, 5-cleft at the margin; some florets destitute of stamens, and often of corolla, either marginal or interspersed in the circumference of the disk; their corolla, when present, slender. Filaments 5, capillary, short; anthers united into a cylindrical tube. Germen obovate, angular. Style filiform, as long as the floret; stigmas spreading, notched. Achene small. Pappus simple or feathery. Receptacle flat, naked.—Name from *gnaphalon*, soft down. 431.

1. **G. lu'teo-al'bum.** L. *Jersey Cudweed.* Leaves half embracing the stem, between linear and oblong, waved, woolly on both sides; heads in tufts.——*Entirely* covered with white cottony down: stems from three to twelve inches high: leaves alternate, the lower obtuse, the upper acute: flowers in crowded heads. Annual: flowers in July and August: grows in Jersey and the south of England: rare. *Eng. Bot.* vol. xiv. pl. 1002. *Eng. Fl.* vol. iii. p. 411. 1207.

2. **G. sylva'ticum.** L. *Highland Cudweed.* Stem simple, erect; spike leafy, nearly erect; leaves lanceolate, tapering at the base, cottony on both sides.——*Stem* from three to twelve inches high, cottony, terminating in a dense leafy spike with yellowish flowers. Perennial: flowers in August: grows in dry pastures in the Highlands of Scotland. *Eng. Bot.* vol. xiii. pl. 913. *Eng. Fl.* vol. iii. p. 414. A variety, named *G. rectum, Upright Wood Cudweed*, has a longer spike, and leaves bare on the upper side. *Eng. Bot.* vol. ii. pl. 124. *Eng. Fl.* vol. iii. p. 415. 1208.

3. **G. uligino'sum.** L. *Marsh Cudweed.* Stem much branched, spreading; leaves linear-lanceolate, cottony on both sides; heads of flowers in dense terminal clusters, which are shorter than the leaves. ——*Stems* from five to eight inches high, densely cottony: flowers yellow. Annual: flowers in August: grows in wet places, especially where water has stood during the winter: common. *Eng. Bot.* vol. xvii. pl. 1194. *Eng. Fl.* vol. iii. p. 416. 1209.

4. **G. supi'num.** L. *Dwarf Alpine Cudweed.* Stem simple, recumbent, terminating in a simple few-headed raceme; leaves lanceolate, inclining to linear, downy on both sides.——*Stems* from two to four inches long, slender, cottony, with a cluster of from 3 to 6 heads of yellowish flowers. Perennial: flowers in July: grows

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abundantly towards the summits of the higher mountains of the Highlands of Scotland, chiefly along rivulets. *Eng. Bot.* vol. xvii. pl. 1193. *Eng. Fl.* vol. iii. p. 415. 1210.

31. PETASI'TES. Desf. BUTTER-BUR.

Involucre ovate, imbricated, with 2 rows of lanceolate, herbaceous scales. Anthodium with the florets all tubular, furnished with stamens and pistils, some of the central ones destitute of stamens; anthers united. Germen obovate, short; style filiform; stigmas 2, protruded, oblong. Fruit oblong, compressed, seldom perfected; pappus sessile, simple. Receptacle naked.—Name from πετασος, a covering, on account of the great size of the leaves. 432.

1. P. vulga'ris. Desf. *Common Butter-bur.* Panicle dense, ovato-oblong; flowers without rays; leaves cordate, unequally toothed, with a lateral rib on each side at the base.——*Stem* about eight inches high, of dense, pale-purple flowers: florets generally furnished with stamens and pistils, but rarely perfecting seeds. In a variety, known by the name of *P. hybrida*, the florets have pistils, but seldom stamens, and produce perfect seeds. Leaves two or even three feet in diameter, the largest of any British plant. Perennial: flowers in March and April: grows by rivers and brooks, in rich soil: common. *Eng. Bot.* vol. vi. pl. 430 and pl. 431. *Eng. Fl.* vol. iii. p. 426. 1211.

32. FILA'GO. Linn. FILAGO.

Involucre conical, imbricated, of a few pointed scariose scales. Anthodium with the florets of the disk perfect, tubular, 5-toothed, those of the ray filiform, pistilliferous. Filaments 5, capillary, short; anthers united, and with bristles at the base. Germen oblong; style filiform; stigmas spreading. Achene oblong. Pappus pilose. Receptacle conical, with scales among the outer florets.—Name from *filum*, a thread. 433.

1. F. Gal'lica. L. *Narrow-Leaved Filago.* Stem erect, forked; leaves linear, revolute, acute, downy; heads of flowers oblong, crowded in very short axillar racemes.——*Stems* about eight inches high, leafy, cottony: heads with few yellow florets. Annual: flowers in July and August: grows in corn-fields: rare. *Eng. Bot.* vol. xxxiii. pl. 2369. *Eng. Fl.* vol. iii. p. 417. 1212.

2. F. mi'nima. Pers. *Least Filago.* Stem erect, much branched; leaves lanceolate, acute; heads of flowers conical, in dense, lateral, and terminal tufts.——*Stems* from three to six inches high, cottony: flowers yellow. Annual: flowers in July: grows in sandy meadows and pastures: common. *Eng. Bot.* vol. xvii. pl. 1157. *Eng. Fl.* vol. iii. p. 418. 1213.

3. F. Germa'nica. L. *Common Filago.* Stem erect, forked; leaves lanceolate; heads of flowers globular, lateral and terminal; scales of the involucre bristle-pointed.—— *Stem* about a foot high, terminated by a head of flowers, from beneath which 2 or 3 branches

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come off, terminated each by a head of flowers, and subdividing in the same manner. Annual: flowers in July and August: grows in dry pastures, gravel pits, and waste grounds: common. It presents several varieties in the form, clothing, and colour of the leaves. *Eng. Bot.* vol. xiv. pl. 946. *Eng. Fl.* vol. iii. p. 418. 1214.

33. TUSSILA'GO. Linn. COLT'S-FOOT.

Involucre simple, cylindrical, with from 15 to 20 linear, erect, parallel, equal scales. Anthodium rayed; florets of the disk tubular, with 5 equal segments, furnished with stamens and pistils; florets of the ray narrow, ligulate; anthers united or converging. Germen obovate, short; style filiform; stigmas 2, protruded, linear. Achene oblong, compressed; pappus sessile, simple. Receptacle naked.—Name from *tussis*, cough, and *ago*, to expel. 434.

1. T. Far'fara. L. *Colt's-foot.* Stalk 1-headed, imbricated with scales; leaves cordate, angular, toothed, white and cottony beneath. ——*Stem* about ten inches high, with a large bright-yellow rayed anthodium: leaves glaucous above. The downy substance of the leaves, after being dipped in saltpetre, makes excellent tinder. The leaves are bitter and mucilaginous, and were formerly used for coughs and pulmonary complaints. Perennial: flowers in March and April: grows generally in clayey soil, by rivers and ditches: common. *Eng. Bot.* vol. vi. pl. 429. *Eng. Fl.* vol. iii. p. 425. 1215.

34. SENE'CIO. Linn. GROUNDSEL. RAGWORT.

Involucre double; the inner cylindrical, of numerous, equal, parallel, linear scales; the outer of minute imbricated scales at the base of the others; all scariose and generally black at the tip. Anthodium with the florets longer than the involucre; those of the disk numerous; all perfect, tubular, with 5 equal segments; those of the ray ligulate, slightly toothed, without stamens, and sometimes wanting. Filaments capillary, short; anthers united into a cylindrical tube. Germen obovate, small; style filiform, as long as the stamens; stigmas oblong, spreading. Achene obovate; pappus simple, sessile. Receptacle naked, slightly convex.—Name from *senex*, an old man. 435.

* *Florets all tubular.*

1. S. vulga'ris. L. *Common Groundsel.* Flowers destitute of ray; leaves pinnatifid, toothed, half embracing the stem.——*Stem* about six inches high, branched, with numerous corymbose, yellow flowers. Annual: flowers from February to November: but individuals may be seen in flower through the winter: grows in cultivated and waste ground: common. *Eng. Bot.* vol. xi. pl. 747. *Eng. Fl.* vol. iii. p. 428. 1216.

** *Florets of the ray ligulate and revolute.*

2. S. visco'sus. L. *Stinking Groundsel.* Rays revolute; leaves half embracing, pinnatifid, clammy; outer scales of the involucre loose, nearly as long as the inner; stem branched.——*The* whole

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plant clammy, generally covered with dust, and having a disagreeable smell: stem about a foot high: flowers yellow. Annual: flowers from June to October: grows in waste ground, and among rubbish: not uncommon. *Eng. Bot.* vol. i. pl. 32. *Eng. Fl.* vol. iii. p. 429. 1217.

3. **S. sylva'ticus.** L. *Mountain Groundsel.* Rays revolute; leaves sessile, pinnatifid, lobed, minutely toothed; scales of the involucre linear; stem erect, straight, branched, corymbose.——*Stem* from six inches to two feet high, or more. It emits a disagreeable odour. Annual: flowers in July and August: grows in dry barren pastures: common. *Eng. Bot.* vol. xi. pl. 784. *Eng. Fl.* vol. iii. p. 430. A variety, with the leaves distinctly eared and embracing the stem, is the *S. lividus, Green-scaled Groundsel. Eng. Bot.* vol. xxxv. pl. 2515. *Eng. Fl.* vol. iii. p. 430. 1218.

*** *Florets of the ray spreading; leaves pinnatifid.*

4. **S. tenuifo'lius.** Jacq. *Hoary Ragwort.* Ray spreading, with oblong, minutely toothed corollas; leaves pinnatifid, paler and cottony beneath; stem erect, loosely cottony.——*Stem* two or three feet high, furrowed: leaves alternate, sessile: flowers yellow. Perennial: flowers in July and August: grows in woods, hedges, and by roads, in England: frequent. *Eng. Bot.* vol. viii. pl. 574. *Eng. Fl.* vol. iii. p. 432. 1219.

5. **S. Jacobæ'a.** L. *Common Ragwort.* Ray spreading, somewhat revolute, with oblong, toothed corollas; leaves lyrate, twice pinnatifid, divaricate, toothed, smooth; fruits hairy.——*Stem* about two feet high, purple at the base, branched: heads of flowers golden-yellow, very numerous, in corymbs, emitting a strong smell of honey. Perennial: flowers in July and August: grows in dry pastures, and by roads: common. *Eng. Bot.* vol. xvi. pl. 1130. *Eng. Fl.* vol. iii. p. 438. 1220.

6. **S. aqua'ticus.** Huds. *Marsh Ragwort.* Ray spreading, with elliptical, toothed corollas; leaves lyrate, serrate, smooth, the lower obovate, undivided; fruits smooth.——*Stem* abo .t two feet high, purple: heads of flowers larger and fewer than in the preceding species, scentless, in corymbs. Perennial: flowers in July and August: grows by the sides of rivers, and in wet pastures: common. *Eng. Bot.* vol. xvi. pl. 1131. *Eng. Fl.* vol. iii. p. 434. 1221.

**** *Florets of the ray spreading; leaves undivided.*

7. **S. paludo'sus.** L. *Great Fen Ragwort. Bird's-tongue Groundsel.* Ray spreading, with oblong, toothed corollas; flowers corymbose; leaves lanceolate, tapering, acutely serrate, somewhat cottony beneath: stem quite straight, hollow.——*Stem* from two to five feet high, simple, leaves very long, at first woolly: heads of flowers yellow, not very numerous, but large: fruits hairy. Perennial: flowers in June and July: grows in ditches and fens in the east part of England: rare. *Eng. Bot.* vol. x. pl. 650. *Eng. Fl.* vol. iii. p. 434. 1222.

8. **S. Sarace'nicus.** L. *Broad-leaved Ragwort.* Ray spreading, the corolla broad, nearly entire; flowers corymbose; leaves lanceolate, serrate, minutely downy; stem solid.——*Stems* from three to five feet high, erect: heads of flowers yellow. Perennial: flowers in July and August: grows in moist meadows and pastures in

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various parts of England, and the Lowlands of Scotland, but is probably not indigenous. *Eng. Bot.* vol. xxxi. pl. 2211. *Eng. Fl.* vol. iii. p. 435. 1223.

35. CINERA'RIA. Linn. FLEA-WORT.

Involucre simple, cylindrical, of numerous, equal, permanent scales. Anthodium rayed; florets of the disk numerous, perfect, tubular, with 5 equal, erect segments; those of the ray equal in number to the scales of the involucre, ligulate, oblong, toothed, without stamens. Filaments filiform, short; anthers united into a cylindrical, 5-notched tube. Germen oblong; style filiform, as long as the stamens; stigma spreading, oblong. Achene linear, 4-cornered; pappus pilose, sessile, abundant, longer than the fruit.—Name from *cineres*, ashes, on account of the colour of the leaves. 436.

1. **C. palus'tris.** L. *Marsh Flea-wort.* Heads of flowers in a corymb; leaves broadly lanceolate, toothed or sinuate; stem woolly. ——*Stem* three feet high, downy and clammy: leaves sessile: flowers pale-yellow. Perennial: flowers in June and July: grows in marshes and ditches in various parts of England: not common. *Eng. Bot.* vol. iii. pl. 254. *Eng. Fl.* vol. iii. p. 443. 1224.

2. **C. campes'tris.** Retz. *Field Flea-wort.* Flowers in a simple and imperfect umbel, with several lanceolate bracts; root-leaves elliptical, obscurely toothed, the rest lanceolate, all cottony.——*Stem* six or eight inches high, simple, terminating in an imperfect umbel of a few heads of bright-yellow flowers. Perennial: flowers in May and June: grows in hilly pastures in the south of England: frequent. *Eng. Bot.* vol. iii. pl. 152: *C. integrifolia.* *Eng. Fl.* vol. iii. p. 444. 1225.

36. ERI'GERON. Linn. FLEA-BANE.

Involucre imbricated, ovate; scales linear, erect, the innermost longest. Anthodium rayed; florets of the disk numerous, perfect, funnel-shaped, their limb with 5 equal segments; those of the ray numerous, tubular at the base, with a ligulate, tapering, nearly erect limb, entire or slightly toothed. Filaments capillary, very short; anthers united into a cylindrical tube. Germen obovate, angular; style filiform; stigmas oblong, slightly spreading. Fruit small, obovate; pappus sessile, simple, rough. Receptacle flat, naked.—Name from ἠρί, early, and γέρων, an old man. 437.

1. **E. Canaden'sis.** L. *Canadian Flea-bane.* Stem panicled, rough with hairs; leaves lanceolate, rough-edged, the lower toothed. ——*Stem* erect, angular, two feet high, with very numerous yellowish flowers. Annual: flowers in August and September: grows in cultivated ground, and among rubbish, in England, but is not indigenous. *Eng. Bot.* vol. xxix. pl. 2019. *Eng. Fl.* vol. iii. p. 421. 1226.

2. **E. a'cris.** L. *Blue Flea-bane.* Peduncles alternate, mostly 1-headed; leaves lanceolate, obtuse, sessile; pappus nearly as long as the florets of the ray.——*Stems* from one to two feet high, erect,

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branched, downy: flowers yellow. Biennial: flowers in July and August: grows in dry pastures: frequent. *Eng. Bot.* vol. xvii. pl. 1158. *Eng. Fl.* vol. iii. p. 422. 1227.

3. **E. alpi'nus.** L. *Alpine Flea-bane.* Stem commonly 1-headed; involucre hairy; pappus half as long as the florets of the ray.——*Stems* from four to six inches high: leaves sessile, lanceolate, entire, hairy: head of flowers rather large, pale-purple. Perennial: flowers in July: grows on rocks on the Highland mountains. *Eng. Bot.* vol. vii. pl. 464. *Eng. Fl.* vol. iii. p. 423. 1228.

37. ASTER. Linn. STARWORT.

Involucre oblong, imbricated; the inner scales standing out at the points, the lowermost spreading. Anthodium rayed; florets of the disk numerous, perfect, tubular, with 5 equal, spreading segments; those of the ray more than 10, ligulate, oblong, 3-toothed, finally revolute, without stamens. Filaments capillary, short; anthers united into a cylindrical tube. Germen oblong; style filiform; stigmas oblong, spreading, those of the disk larger. Fruit obovate. Pappus sessile, pilose. Receptacle naked, almost flat.—Name, *aster*, a star. 438.

1. **A. Tripo'lium.** L. *Sea Starwort.* Stem herbaceous, corymbose; leaves lanceolate, entire, fleshy, obscurely 3-ribbed, scales of the involucre obtuse, membranous.——*Stem* two or three feet high, round, smooth: leaves smooth, the lower stalked, the upper sessile and more narrow: heads of flowers large, purple, with a yellow disk. Perennial: flowers in August and September grows in salt marshes: frequent. *Eng. Bot.* vol. ii. pl. 87. *Eng. Fl.* vol. iii. p. 437. 1229.

38. DORO'NICUM. Linn. LEOPARD'S-BANE.

Involucre of about 20 ligulate, equal, upright scales, in 2 rows. Anthodium rayed; florets of the disk with 5 spreading segments; those of the ray equal in number to the scales of the involucre, ligulate, spreading, with 3 or 5 teeth. Filaments in the tubular florets only. Fruit obovate, compressed, furrowed; pappus hairy, wanting to the florets of the ray. Receptacle naked or nearly so.—Name from δωρον, a gift, and νικη, victory, the plant being formerly used to destroy wild beasts. 439.

1. **D. Pardalian'ches.** L. *Great Leopard's-bane.* Leaves cordate, toothed, the lower on long stalks, the upper embracing the stem, the intermediate with their stalks dilated into two broad ears at the base, slightly clasping the stem.——*Stem* from two to four feet high, with a few large heads of yellow flowers: root tuberous. Perennial: flowers in June and July: grows in woods: rare, and often the outcast of gardens. Apparently wild in the woods at Gifford, East Lothian, where it is very abundant. *Eng. Bot. Suppl.* pl. 2654. 1230.

2. **D. plantagi'neum.** L. *Plantain-leaved Leopard's-bane.* Leaves

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toothed, lower stalked, ovate, or slightly cordate, the rest sessile, except the lowest, which has a winged stalk, and half embraces the stem.——*Smaller* than the preceding, with the root-leaves produced at the base, the rest varying between ovate and cordate, pointed. Perennial: flowers in June and July: grows in woods: rare, and probably not indigenous. *Eng. Bot.* vol. ix. pl. 630. 1231.

39. I'NULA. Linn. INULA.

Involucre hemispherical, imbricated, with the scales spreading at the points. Anthodium rayed; florets of the disk very numerous, perfect, tubular, with 5 equal, erect, or spreading segments; those of the ray numerous, ligulate, linear; 3-toothed. Filaments thread-shaped, short; anthers united into a cylindrical tube, with 5 acute teeth above, and 10 straight bristles at the base. Germens oblong; style filiform, cleft; stigmas spreading, oblong. Fruit linear, 4-cornered; pappus simple, sessile. Receptacle nearly flat, naked or slightly scaly. —Name doubtful. 440.

1. **Hele'nium.** L. *Elecampane.* Leaves ovate, serrate, rugose, embracing the stem, downy beneath; involucre ovate, leafy.——*Root* thick, branched: stem three feet high, furrowed, branched and downy above: root-leaves stalked: heads of flowers solitary, terminal, large, bright-yellow. Infusion of the fresh root, sweetened with honey, is esteemed good for promoting expectoration. Perennial: flowers in July and August: grows in moist meadows and pastures: rare. *Eng. Bot.* vol. xxii. pl. 1546. *Eng. Fl.* vol. iii. p. 440. 1232.

2. **I. squarro'sa.** L. *Ploughman's Spikenard.* Leaves ovato-lanceolate, crenate, downy; stem herbaceous, corymbose; scales of the involucre recurved.——*Soft* and downy: stem erect, two or three feet high: heads of flowers dull-yellow. Biennial: flowers in July: grows in mountainous meadows and pastures: frequent in England. *Conyza squarrosa*, Linn. *Inula conyza*, De C., Hook. *Eng. Bot.* vol. xvii. pl. 1195. *Eng. Fl.* vol. iii. p. 420. 1233.

3. **I. crithmo'ides.** L. *Golden Samphire.* Leaves linear, fleshy, generally 3-pointed.——*Stem* a foot high, with a few terminal heads of yellow flowers. Perennial: flowers in August: grows in wet ground on the coast: rare. *Eng. Bot.* vol. i. pl. 68. *Eng. Fl.* vol. iii. p. 442. 1234.

40. PULICA'RIA. Gærtn. FLEA-BANE.

Involucre hemispherical, imbricated. Anthodium rayed; florets of the disk perfect, tubular, with 5 equal, erect, or spreading segments; of the ray numerous, ligulate, 3-toothed. Filaments filiform, short; anthers united into a cylindrical tube, with 5 acute teeth above, and 10 straight bristles at the base. Germens oblong; style filiform, cleft; pappus double; outer short, membranous; inner pilose, rough. Receptacle naked.—Name from *pulex*, a flea. 441.

1. **P. dysente'rica.** L. Cass. *Common Flea-bane.* Leaves oblong, cordate at the base, and embracing the stem, downy; stem woolly,

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panicled; scales of the involucre bristle-shaped.——*Root* creeping: stem a foot high or more, corymbose above, with large heads of yellow flowers. It has a peculiar aromatic scent, and is asserted by Linnæus to have cured the Russian army, under General Keith, of dysentery. Perennial: flowers in August: grows in moist meadows and pastures, and by the sides of brooks and ditches: rare in Scotland. *Eng. Bot.* vol. xvi. pl. 1115. *Eng. Fl.* vol. iii. p. 441. 1235.

2. **P. vulga'ris.** Gærtn. *Small Flea-bane.* Leaves narrow, lanceolate, embracing the stem, waved; stem much branched, hairy; flowers hemispherical, with very short rays.——*Stem* about eight inches high, corymbose, purplish: leaves scattered, recurved: heads of flowers solitary, terminal, pale-yellow: receptacle with a few short hairs. Annual: flowers in September: grows in moist places, where water has stood during winter: not common. *Inula pulicaria*, Linn. *Eng. Bot.* vol. xvii. pl. 1196. *Eng. Fl.* vol. iii. p. 441. 1236.

41. SOLIDA'GO. Linn. GOLDEN-ROD.

Involucre oblong, imbricated, with oblong, pointed, straight scales. Anthodium rayed; florets of the disk numerous, perfect, tubular, with 5 equal, spreading segments; those of the ray from 5 to 10, ligulate, oblong, 3-toothed, without stamens. Filaments capillary, short; anthers united into a cylindrical tube. Germens oblong; style filiform; stigmas 2, revolute. Seed somewhat obovate; pappus sessile, capillary. Receptacle nearly flat, naked.—Name from *solidor*, to unite, on account of its supposed healing power. 442.

1. **S. Virgau'rea.** L. *Common Golden-rod.* Root-leaves elliptical, those of the stem lanceolate; clusters panicled, erect, crowded. ——*Stem* from six inches to three feet high, erect, generally zig-zag, purple at the lower part, downy above, terminating in a leafy, generally compound cluster of small yellow flowers. Perennial: flowers in July and August: grows in woods, rocky places, by rivers, and upland pastures: common. *Eng. Bot.* vol. v. pl. 301. *Eng. Fl.* vol. iii. p. 438. 1237.

42. BEL'LIS. Linn. DAISY.

Involucre simple, hemispherical, erect, of from 10 to 20 lanceolate, equal scales, placed in two rows. Anthodium rayed; florets of the disk numerous, perfect, tubular. with 5 equal, spreading segments; those of the ray ligulate, slightly notched, more numerous than the scales of the involucre. Filaments capillary, very short; anthers united into a cylindrical, notched tube. Germens obovate; style filiform, stigmas oblong, spreading. Fruit obovate, compressed; pappus none. Receptacle conical, hollow, dotted, and naked.—Named from *bellus*, pretty 443.

1. **B. peren'nis.** L. *Common Daisy.* Root creeping; flower-stalk leafless.——*Leaves* numerous, lying flat on the ground; obovate, crenate, slightly hairy, tapering at the base; stalks from two to four inches long, round, hairy, each bearing a single head, having

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a yellow conical disk, and a white ray tinged with purple. A variety, called the Hen and Chicken Daisy, sometimes occurs, in which several small stalks, bearing diminutive heads, spring from the anthodium. Perennial: flowers from March to November, but individuals may be seen in flower at all seasons: grows in pastures and meadows abundantly. *Eng. Bot.* vol. vi. pl. 424. *Eng. Fl.* vol. iii. p. 447. 1238.

43. CHRYSAN'THEMUM. Linn. OX-EYE. CORN-MARIGOLD.

Involucre hemispherical, closely imbricated, with numerous roundish scales, membranous and dilated at the margin, the innermost terminating in a filmy appendage. Anthodium rayed, florets of the disk very numerous, perfect, tubular, with 5 equal, spreading segments; those of the ray more than 12, ligulate, between elliptical and oblong, with 3 teeth. Filaments capillary, very short; anthers united into a cylindrical, notched tube. Germen obovate; style filiform, a little longer than the stamens; stigmas oblong, spreading. Fruit oblong, or obcordate, striated; pappus none. Receptacle a little convex, naked. —Name from χρυσος, gold, and ανθος, flower. 444.

1. Ch. Leucan'themum. L. *Great White Ox-eye. Moon-flower.* Leaves oblong, cut, pinnatifid at the base, clasping the stem; root-leaves obovate, stalked.——*Stem* about two feet high, erect, furrowed; heads of flowers large, solitary, terminal, with a yellow disk, and white ray. Perennial: flowers in June and July: grows in dry pastures and by roads: common. *Eng. Bot.* vol. ix. pl. 601. *Eng. Fl.* vol. iii. p. 449. 1239.

2. Ch. sege'tum. L. *Corn Marigold.* Leaves clasping the stem, broadly serrate above, toothed at the base, glaucous.——*Stem* from one to two feet high, branched, angular, bearing several terminal, large heads of rich yellow flowers. Annual: flowers in June and July: grows in corn-fields abundantly. *Eng. Bot.* vol. viii. pl. 540. *Eng. Fl.* vol. iii. p. 450. 1240.

44. MATRICA'RIA. Linn. WILD-CHAMOMILE.

Involucre slightly convex, closely imbricated, with several oblong, nearly equal scales, membranous at the edges. Anthodium rayed; florets of the conical disk numerous, perfect, tubular, with 5 equal, spreading segments; those of the ray numerous, ligulate, spreading, abrupt, with 3 terminal teeth. Filaments capillary, very short; anthers united into a cylindrical tube. Germen obovate; style filiform, as long as the anthers; stigmas spreading, obtuse. Achene obovate, angular; pappus none. Receptacle naked, nearly cylindrical, hollow.—Name from *matrix*, the womb. 445.

1. M. Chamomil'la. L. *Common Wild Chamomile.* Leaves smooth, twice pinnatifid, with linear segments; scales of the involucre dilated, obtuse.—— *Stem* a foot high, erect, much branched, smooth, striate: leaves sessile, deep-green: heads of flowers large, with a conical yellow disk and white ray. Has the smell of common Chamomile,

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which it also resembles in the flowers. Annual: flowers from June to October: grows in cultivated and waste ground: frequent. *Eng. Bot.* vol. xviii. pl. 1232. *Eng. Fl.* vol. iii. p. 454. 1241.

45. ANTHEMIS. Linn. CHAMOMILE.

Involucre hemispherical, closely imbricated, with several oblong, nearly equal scales. Anthodium rayed; florets of the disk numerous, perfect, tubular, with 5 equal, spreading segments; those of the ray numerous, ligulate, abrupt, 3-toothed. Filaments very short, capillary; anthers united into a cylindrical tube. Germens obovate; style filiform, as long as the anthers; stigmas oblong, spreading. Fruit obovate, somewhat compressed, generally crowned with a slight border. Receptacle convex, covered with lanceolate chaffy scales.—Named from ανθεμις, a flower. 446.

1. **A. mari'tima.** L. *Sea Chamomile.* Leaves twice pinnatifid, acute, fleshy, dotted, somewhat hairy; stem prostrate; scales of the receptacle acute, prominent.——*Stems* about eight inches long, angular, branched, cottony: inner scales of the calyx lacerated: disk of the heads convex, yellow; ray cream-coloured. Annual: flowers in July: found at Sunderland, in Durham, by Mr. E. Robson. *Eng. Bot.* pl. 2370. *Eng. Fl.* vol. iii. p. 456. *H. Anglica,* Spr. Hook. 1242.

2. **A. nobi'lis.** L. *Common Chamomile.* Leaves twice pinnate, with semi-cylindrical, acute, somewhat downy segments; stem procumbent; scales of the receptacle membranous, obtuse, shorter than the disk.——*Stems* about eight inches long, branched, furrowed, downy: heads terminal, solitary, with a convex yellow disk and white spreading ray. The leaves and heads of flowers have a strong smell, and a bitter taste. The latter are used in infusion as a stomachic and antispasmodic. Perennial: flowers in August and September: grows in dry pastures in various parts of England. *Eng. Bot.* vol. xiv. pl. 980. *Eng. Fl.* vol. iii. p. 456. 1243.

3. **A. arven'sis.** L. *Corn Chamomile.* Leaves twice pinnatifid, hairy, with narrow lanceolate segments; receptacle conical, with lanceolate, acute, prominent scales; seeds crowned with a border. ——*Stem* from twelve to eighteen inches high, erect, much branched, covered with soft hairs: heads of flowers solitary, on long terminal stalks, their disk and scales bright-yellow, the ray white. Biennial: flowers in June and July: grows in fields and waste ground: rare. *Eng. Bot.* vol. ix. pl. 602. *Eng. Fl.* vol. iii. p. 457. 1244.

4. **A. Co'tula.** L. *Stinking Chamomile.* Leaves twice pinnatifid, smooth, with linear segments; receptacle conical, with bristle-shaped scales; fruits without a border.——*Stem* a foot or more high, erect, bushy: heads of flowers solitary, on terminal striate stalks: disk pale-yellow: ray white. Fetid and acrid, blistering the skin. Annual: flowers in June and July: grows in corn-fields and waste ground. *Eng. Bot.* vol. xxv. pl. 1772. *Eng. Fl.* vol. iii. p. 458. 1245.

5. **A. tinctoʼria.** L. *Ox-eye Chamomile.* Leaves twice pinnatifid, serrate, downy beneath; stem erect, corymbose; fruits crowned with a membranous undivided border.——*Stem* eighteen inches high, angular: leaves sessile, with acute, notched segments, cottony

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beneath: heads of flowers large, bright-yellow in both the ray and disk. Perennial: flowers in July and August. Found in Essex by Mr. Dickson, and near Forfar by Mr. G. Don. *Eng. Bot.* vol. xxi. pl. 1472. *Eng. Fl.* vol. iii. p. 459. 1246.

46. PYRETHRUM. Sm. FEVERFEW.

Involucre hemispherical, closely imbricated, with several oblong, nearly equal scales, bordered with an equal membrane. Anthodium rayed; florets of the disk numerous, perfect, tubular, with 5 equal, spreading segments; those of the ray numerous, ligulate, spreading, with 3 terminal teeth. Filaments capillary, short; anthers united into a cylindrical tube. Germens angular, abrupt; style filiform, not longer than the anthers; stigmas obtuse, spreading. Fruit oblong, angular, abrupt, crowned by an elevated membranous border.—Name from πυρ, fire or fever. 447.

1. **P. parthe'nium.** L. *Common Feverfew.* Leaves stalked, compound. flat; leaflets ovate, cut; panicle corymbose; stem erect.——*Stem* about two feet high: flowers with a yellow disk and white ray. The whole plant has a strong smell and bitter taste. Perennial: flowers in June and July: grows in waste ground, and on rocks and walls: frequent. *Matricaria p.*, Linn. Hook. *Eng. Bot.* vol. xviii. pl. 1231. *Eng. Fl.* vol. iii. p. 451. 1247.

2. **P. inodo'rum.** L. Sm. *Corn* or *Scentless Feverfew.* Leaves sessile, pinnate, with numerous filiform, pointed segments; stem branched, spreading; crown of the seeds entire.——*Stem* about a foot high, angular, smooth: flowers large, with a convex yellow disk and a pure white ray, on long, terminal, naked stalks. Annual: flowers in August and September: grows in cultivated ground and by roads: common. *Eng. Bot.* vol. x. pl. 676. *Eng. Fl.* vol iii. p. 452. A maritime variety with fleshy leaves is the *P. maritimum, Sea Feverfew* of some botanists. *Matricaria inodora* and *maritima.* Linn. Hook. *Eng. Bot.* vol. xiv. pl. 979. *Eng. Fl.* vol. iii. p. 453. 1248.

47. ACHILLÆ'A. Linn. MILFOIL.

Involucre ovate, imbricated, with several ovate, acute, close scales. Anthodium rayed; florets of the disk perfect, tubular, with 5 equal, spreading segments; those of the ray from 5 to 10, flat, roundish, obcordate, with a small intermediate lobe. Filaments capillary, very short; anthers united into a cylindrical tube. Germen small, obcordate; style filiform, as long as the stamens; stigmas obtuse, spreading. Achene obovate, abrupt; pappus none. Receptacle narrow, covered with lanceolate, chaffy scales.—Named after *Achilles.* 448.

1. **A. Pta'rmica.** L. *Sneeze-wort. Goose-tongue.* Leaves narrow, lanceolate, pointed, acutely serrate, smooth.——*Stem* simple, erect, from six inches to two feet high, terminating in a large, nearly simple corymb, with white flowers: leaves very minutely, acutely, doubly serrate. Perennial: flowers from the middle of July to the end of September: grows in moist pastures, by ditches, and at the edges of corn-fields: not uncommon. *Eng. Bot.* vol. xi. pl. 757. *Eng. Fl.* vol. iii. p. 460. 1249.

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2. **A. serra'ta.** Sm. *Serrate Yarrow.* Leaves narrow, lanceolate, sessile, downy, deeply serrate, laciniate at the base; heads almost simply corymbose.——*Stem* simple, erect, downy, about eighteen inches high, terminating in a simple or slightly branched corymb of heads of yellowish flowers, much inferior in size to those of the last species. Perennial: flowers in August: found near Matlock, Derbyshire, by Mr. Rupp and Mr. Williams. *Eng. Bot.* vol. xxxvi. pl. 2531. *Eng. Fl.* vol. iii. p. 461. *A. decolorans,* Schrad. Hook. and Arn. 1250.

3. **A. Millefo'lium.** L. *Common Yarrow,* or *Milfoil.* Leaves twice pinnate, with lanceolate, pointed segments, hairy on the back; stems furrowed.——*Stems* commonly decumbent at the base, then erect, about a foot high, terminating in a dense, often-divided corymb, with white or purplish flowers. Perennial: flowers from the middle of June to the end of October: grows on banks, by roadsides, and in dry pastures: common. *Eng. Bot.* vol. xi. pl. 758. *Eng. Fl.* vol. iii. p. 462. 1251.

4. **A. tomento'sa.** L. *Woolly Yellow Milfoil,* or *Yarrow.* Leaves twice pinnatifid, with linear, acute, crowded segments; corymbs repeatedly compound.——*Stems* about a foot high, decumbent at the base, then erect, terminating an often-divided corymb of heads of yellow flowers. Perennial: flowers in July and August: on Spittle Hill, Dumbartonshire, and on hills near Paisley, discovered by Mr. Hugh Ross: also in Ireland. *Eng. Fl.* vol. iii. p. 462. *Eng. Bot.* pl. 2532. 1252.

POLYGAMIA FRUSTRANEA.

48. CENTAURE'A. Linn. CENTAURY. KNAPWEED.

Involucre roundish, closely imbricated, with scales of various forms. Anthodium of numerous tubular florets; those of the disk perfect, regular, with 5 equal, spreading segments, an oblong limb, and a slender tube; those of the ray fewer, with a rudimentary pistil, not perfecting seed, spreading, often wanting, funnel-shaped, with 5 or more unequal segments. Filaments capillary, very short; anthers united into a cylindrical tube. Germen small, oblong; style filiform, about the length of the stamens; stigma blunt, often cleft, prominent. Style and stigma very small in the florets of the ray. Fruit in the disk only, of various forms; pappus various, or wanting. Receptacle bristly.—Named after the *Centaur* Chiron. 449.

* *Scales of the involucre jagged or fringed.*

1. **C. Jace'a.** L. *Brown Knapweed.* Scales of the involucre membranous, lacerate, the lower pinnatifid; leaves linear-lanceolate, root-leaves broader, toothed; heads with rays.——*Stem* a foot high, erect, angular, branched: heads of flowers solitary, terminal, light-crimson, on tumid stalks: scales of the calyx brown, the outer deeply pinnatifid, the inner terminating in a light-brown, jagged lobe. Perennial: flowers in August and September: grows

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in meadows and moist woods: found in Sussex, by Mr. Borrer: in Angus-shire, by Mr. D. Don. *Eng. Bot.* vol. xxiv. pl. 1768. *Eng. Fl.* vol. iii. p. 464. 1253.

2. **C. ni'gra.** L. *Black Knapweed.* Scales of the involucre lanceolate, fringed at the tip with capillary teeth; lower leaves lyrate, upper lanceolate; heads of flowers without rays.——*Stem* from two to three feet high, woolly when young, afterwards rough: leaves rough: scales of the involucre tipped with an ovate membranous expansion of a bark-brown colour, fringed with long linear teeth: flowers purple. Perennial: flowers in July and August: grows in dry pastures: common. *Eng. Bot.* vol. iv. pl. 278. *Eng. Fl.* vol. iii. p. 465. 1254.

3. **C. nigres'cens.** Koch. *Black-rayed Knapweed.* "Involucral appendages erect, ovate, pectinated about 3 innermost rows, separated from the rest and exposing the scales; teeth ascending, capillary, at least as long as the breadth of the appendage; pappus almost wanting; leaves linear-lanceolate, lower ones ovate, sinuate-dentate, or lyrate-sinuate." Babington.——*Perennial:* flowers from June to September: grows in pastures in the south-west of England. Bab. *Man.* Hooker and Arnott. 1255.

4. **C. Cya'nus.** L. *Corn Blue-bottle.* Scales of the involucre serrate; leaves linear, entire, the lower toothed towards their base.——*Stem* two or three feet high, slender, branched, loosely cottony, as are the leaves: heads of flowers numerous, solitary: florets of the disk large, and of a bright-blue, those of the ray short and purplish. Annual: flowers in July and August: grows in corn-fields: common. *Eng. Bot.* vol. iv. pl. 277. *Eng. Fl.* vol. iii. p. 466. 1256.

5. **C. Scabio'sa.** L. *Greater Knapweed.* Scales of the involucre ovate, fringed, somewhat downy; leaves pinnatifid, with lanceolate, acute segments.——*Stem* three feet high, erect, branched, angular, heads of flowers terminal, solitary, large crimson: scales of the involucre black and triangular at the end, fringed with pale bristles. Perennial: flowers in July and August: grows in dry pastures and corn-fields: frequent. *Eng. Bot.* vol. i. pl. 56. *Eng. Fl.* vol. iii. p. 467. 1257.

** *Scales of the involucre with compound thorns.*

6. **C. Calci'trapa.** L. *Common Star-thistle.* Heads sessile; scales of the involucre with branched thorns; leaves pinnatifid, toothed; stem hairy.——*Stem* short, spreading, much branched, furrowed; heads of flowers rose-coloured: scales of the involucre terminating in a large channelled thorn, fringed at the base with smaller prickles: the filaments contract when touched. Annual: flowers in July and August: grows in dry pastures and by roads, in various parts of England. *Eng. Bot.* vol. ii. pl. 125. *Eng. Fl.* vol. iii. p. 468. 1258.

7. **C. solstitia'lis.** L. *St. Barnaby's Thistle.* Heads terminal, solitary; scales of the involucre with branched thorns; stem winged, with the decurrent, lanceolate, thornless leaves.——*Stem* two feet high, branched, spreading, uninterruptedly winged: root-leaves lyrate: flowers bright-yellow. Annual: flowers in July and August: grows in corn-fields and hedges, in the south of England: rare, and probably not indigenous. *Eng. Bot.* vol. iv. pl. 243. *Eng. Fl.* vol. iii. p. 469. 1259.

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CLASS XX. GYNANDRIA.

Stamens situated on the Style or Germen.

Order I. MONANDRIA. *One Stamen.* (*Three Stamens, the lateral abortive.*)

* *Anther adnate to the stigma: pollen-masses granular, with an elastic axis.*

1. OR'CHIS. *Lip* spurred, 3-lobed. *Glands* of the stalks of the pollen-masses in a common pouch.
2. GYMNADE'NIA. *Lip* spurred, 3-lobed. *Glands* of the stalks of the pollen-masses naked.
3. A'CERAS. *Lip* spurless. *Glands* of the stalks of the pollen-masses in a common pouch.
4. HABENA'RIA. *Lip* 3-lobed or entire, spurred. *Glands* of the stalks of the pollen-masses exserted, naked.
5. O'PHRYS. *Lip* lobed, spurless. *Glands* of the stalks of the pollen-masses each in a distinct pouch.
6. HERMI'NIUM. *Lip* 3-lobed, tumid at the base, spurless. *Glands* of the stalks of the pollen-masses exserted, naked.

** *Anther free; pollen-masses granular, the granules very loosely coherent.*

7. GOODYE'RA. *Lip* saccate at the base, entire, free from the ovary, flat above, and without callosities.
8. NEOT'TIA. *Lip* adherent to the ovary, canaliculate, with 2 callosities above, the tip entire.
9. LISTE'RA. *Lip* narrow, spurless, 2-lobed at the tip.
10. EPIPAC'TIS. *Lip* free, much contracted in the middle, concave at the base, with 2 projecting tubercles. *Ovary* straight, on a twisted stalk.
11. CEPHALAN'THERA. *Lip* free, much contracted in the middle, concave at the base, without tubercles. *Ovary* twisted, sessile.

*** *Anther terminal; pollen-masses smooth; pollen cohering in lobes, and finally waxy.*

12. MALA'XIS. *Sepals* widely spreading. *Lip* entire, spurless. *Pollen-masses* 4 in a double row. *Stalk* of germen twisted.
13. LIPA'RIS. *Sepals* widely spreading. *Lip* entire, larger than the petals, spurless. *Pollen-masses* 4, in a single row. *Stalk* of germen twisted.
14. CORALLORHI'ZA. *Sepals* converging. *Lip* with 2 small lobes at the base. *Spur* free or adnate. *Stalk* of germen straight.

Order II. DIANDRIA. *Two Stamens.* (*Three Stamens, the middle one abortive.*)

15. CYPRIPE'DIUM. *Calyx* and petals spreading. *Lip* large, inflated. *Column* with a terminal, dilated appendage.

Order III. HEXANDRIA. *Six Stamens.*

16. ARISTOLO'CHIA. *Calyx* of one leaf. *Corolla* none. *Stigma* 6-lobed. *Capsule* 6-celled.

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GYNANDRIA.—MONANDRIA.

1. OR'CHIS. Linn. ORCHIS.

Calyx of 3 ovate, partly coloured sepals. Petals 2, oblong, smaller than the calyx, ascending. Lip 3-lobed, larger than the petals, hanging down anteriorly between the lower leaves of the calyx, and extended behind in the form of a tubular spur. Anther of 2 oblong cells, each containing an oblong elastic mass of pollen, and opening lengthwise in front. Glands of the stalks of the pollen-masses contained in a common pouch. Germen oblong or nearly cylindrical, furrowed, spirally twisted; style thick and short; stigma a shining moist depression, in front, under or between the masses of pollen. Capsule oblong, spiral. Seeds numerous, oval, on 3 parietal placentas.—Name, ορχις, of ancient use. 450.

* *Tubers or knobs of the root undivided.*

1. **O. pyramida'lis.** L. *Pyramidal Orchis.* Lip of the nectary in 3 equal lobes, with 2 protuberances above; spur long and slender; bracts 3-nerved.——*Tubers* long: stem upwards of a foot high: leaves lanceolate, channelled, acute: spike dense, pyramidal, rich crimson: the flowers fragrant. Perennial: flowers in July: grows in meadows and pastures: rare. *Eng. Bot.* vol. ii. pl. 110. *Eng. Fl.* vol. iv. p. 10. 1260.

2. **O. mo'rio.** L. *Green-winged Meadow Orchis.* Lip 3-lobed, somewhat crenate, the middle lobe emarginate; spur blunt, ascending; sepals many-ribbed, converging.——*Tubers* nearly round: stem a foot high: leaves lanceolate: spike rather loose: flowers purple, the disk of the lip white and spotted: the sepals ribbed with green. Perennial: flowers in May and June: grows in meadows and pastures in England. *Eng. Bot.* vol. xxix. pl. 2059. *Eng. Fl.* vol. iv. p. 11. 1261.

3. **O. mas'cula.** L. *Early Purple* or *Meadow Orchis.* Lip 4-lobed, crenate; sepals 3-ribbed, the two lateral ones reflexed upwards. ——*Tubers* elliptical: stem about a foot high: leaves chiefly radical, elliptical, or lanceolate, usually spotted with black: spike rather loose: flowers rich purple: the disk of the lip white and spotted, the ribs of the calyx purple. Perennial: flowers in April and May: grows in meadows and pastures: frequent. *Eng. Bot.* vol. ix. pl. 631. *Eng. Fl.* vol. iv. p. 12. 1262.

4. **O. ustula'ta.** L. *Dwarf Orchis.* Lip 4-lobed, rough, with small points; spur blunt, not half the length of the germen; calyx converging; leaves lanceolate.——*Tubers* oval: stem three or four inches high: leaves without spots: spike oblong, dense: lip of the nectary white at the base with dark-purple spots: sepals dark-purple. Perennial: flowers in June: grows in dry pastures in England: not common. *Eng. Bot.* vol. i. pl. 18. *Eng. Fl.* vol. iv. p. 12. 1263.

5. **O. fus'ca.** Jacq. *Great Brown-winged Orchis.* Lip 5-lobed, dilated, rough with prominent points; spur blunt, not half the length

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of the germen; calyx converging, blunt; leaves oblong.——*Tubers* oval: stem from one to two feet high: spike cylindrical, rather dense, of dark-purple flowers: sepals marked externally with dark-brown lines and confluent spots. Perennial: flowers in May: grows in Kent: rare. *Eng. Bot.* vol. i. pl. 16. *Eng. Fl.* vol. iv. p. 13. *O. militaris.* 1264.

6. **O. milita'ris.** L. *Military Orchis.* Lip 5-lobed, downy, the two intermediate lobes dilated, rounded; spur blunt, not half the length of the germen; sepals acuminate, converging.——*Tubers* oval: stem about a foot high: spike about three inches long: flowers rose-red, with the sepals of a silvery ash-colour. Perennial: flowers in May: grows in meadows and pastures in the south of England. *Eng. Bot. Suppl.* pl. 2675. *Eng. Fl.* vol. iv. p. 15. 1265.

7. **O. tephrosan'thos.** Vill. *Monkey Orchis.* Lip 5-lobed, downy, 4 of the lobes equal, linear, entire; spur blunt, not half the length of the germen; sepals acuminate, converging.——*The* principal difference between this and the last is in the divisions of the lip. This and the two preceding species smell like woodruff when drying. Perennial: flowers in May: grows on chalk hills in England: rare. *Eng. Bot.* vol. xxvii. pl. 1873. *Eng. Fl.* vol. iv. p. 16. *O. militaris* β. *Eng. Bot.* pl. 1873. *O. macra,* Lindl. 1266.

8. **O. hirci'na.** Scop. *Lizard Orchis.* Lip downy, divided into 3 linear segments; the middle one very long, twisted and notched at the end; spur short and tumid; sepals converging.——*Tubers* nearly globular: stem from 2 to 3 feet high: spike rather loose, of numerous flowers: calyx green, spotted with dull-purple internally. Perennial: flowers in July: grows in pastures in Kent and Surrey: rare. *Eng. Bot.* vol. i. pl. 24. *Eng. Fl.* vol. iv. p. 17. *Satyrium hircinum,* Linn. 1267.

** *Tubers palmate.*

9. **O. latifo'lia.** L. *Broad-leaved Orchis.* Lip convex, crenate, slightly 3-cleft; spur conical; bracts longer than the flowers.——*Stem* about a foot high: leaves lanceolate: spike dense, many-flowered: flowers purple or red. Perennial: flowers in May and June: grows in meadows and pastures: common. *Eng. Bot.* vol. xxxiii. pl. 2308. *Eng. Fl.* vol. iv. p. 21. 1268.

10. **O. macula'ta.** L. *Spotted Palmate Orchis.* Lip flat, crenate, 3-lobed; spur cylindrical, shorter than the germen; lower bracts longer than the flowers.——*A* foot high, slender: leaves lanceolate, spotted with purplish-brown: flowers pale-purple or whitish, variously spotted with dark purple or crimson. Perennial: flowers in June and July: grows in meadows, wet heaths, and woods: common. *Eng. Bot.* vol. ix. pl. 632. *Eng. Fl.* vol. iv. p. 22. 1269.

2. GYMNADE'NIA. Br. GYMNADENIA.

Calyx of 3 ovate leaves. Petals 2, oblong, ascending. Lip 3-lobed, larger than the petals, extended behind in the form of a tubular spur. Anthers of 2 oblong contiguous cells, each containing an elastic mass of pollen, and opening lengthwise in front. Glands of the stalks of the pollen-masses naked. Ger-

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men oblong, spirally twisted; stigma a shining moist depression. Capsule oblong, spiral. Seeds numerous on 3 parietal placentas. —Name from γυμνος, naked, and αδην, a gland. 451.

1. G. conop'sea. L. Br. *Aromatic Gymnadenia.* Lip divided into 3 equal, entire lobes; spur very slender, twice as long as the germen; leaves of the calyx widely spreading.——*About* a foot high: leaves narrow lanceolate: spike oblong, rather dense: flowers rich crimson, exhaling a delicious odour. Perennial: flowers in June and July: grows in dry pastures and on heaths: frequent. *Eng. Bot.* vol. i. pl. 10. *Eng. Fl.* vol. iv. p. 23. 1270.

3. A'CERAS. Br. MAN-ORCHIS.

Calyx of 3 ovate, equal, converging, permanent leaves. Petals 2, narrow, oblong, as long as the calyx. Lip without a spur, much longer than the calyx, narrow, oblong, with 4 linear lobes, the 2 uppermost longest. Anther of 2 oblong membranous cells, close together, above the stigma, each containing an obovate, elastic mass of pollen. Glands of the stalks of the pollen-masses contained in a common pouch. Germen oblong, furrowed, nearly straight. Style very short; stigma a shining moist depression, in front. Capsule obovate, slightly curved, furrowed. Seeds very numerous.—Name *a*, without, and *ceras*, a horn. 452.

1. A. anthropo'phora. L. Br. *Green Man-orchis. Man Twayblade.* Lip longer than the germen.——*Tubers* roundish, hairy: stem about a foot high: leaves lanceolate: spike long, loose, of green flowers tinged with brown. Perennial: flowers in June: grows in meadows and pastures in the south of England: not common. *Eng. Bot.* vol. i. pl. 29. *Eng. Fl.* vol. iv. p. 25. *Ophrys anthropophora,* Linn. 1271.

4. HABENA'RIA. Br. HABENARIA. BUTTERFLY-ORCHIS.

Calyx of 3 ovate leaves. Petals 2, oblong, ascending. Lip 3-lobed, spurred. Anther of 2 oblong, separated cells, diverging at the base. Glands of the stalks of the pollen-masses naked, distant. Germen oblong, spirally twisted, as in the capsule.—Name from *habena*, a thong or strap. 453.

1. H. vi'ridis. L. Br. *Green Habenaria.* Lip linear, 3-cleft, the middle segment smallest; spur very short, slightly cleft.——*Stem* from four to six inches high: leaves ovate, the uppermost lanceolate: spike rather lax: flowers green. Perennial: flowers in June and July: grows in dry pastures: frequent. *Satyrium viride,* Linn. *Eng. Bot.* vol. ii. pl. 94. *Eng. Fl.* vol. iv. p. 20. 1272.

2. H. al'bida. L. Br. *White Habenaria.* Lip divided into 3 deep acute lobes, the middle one largest; spur one-third the length of the germen. *Stem* about a foot high: leaves lanceolate: spike cylindrical, dense: flowers cream-coloured. Perennial: flowers in June: grows in grassy mountain pastures: frequent. *Satyrium*

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albidum, Linn. *Eng. Bot.* vol. viii. pl. 505. *Eng. Fl.* vol. iv. p. 18. 1273.

3. **H. bifo'lia.** L. Br. *Lesser Butterfly-orchis.* Lip lanceolate, entire, about half the length of the very long, filiform spur; lateral leaves of the calyx spreading downwards; anther oblong.——*Tubers* tapering: stem angular, about a foot high: flowers numerous, white. Perennial: flowers in June and July: grows on open heaths: frequent. *Eng. Bot. Suppl.* pl. 2806. 1274.

4. **H. chloran'tha.** Bab. *Great Butterfly-orchis.* "Spur twice as long as the germen, lip linear, entire; petals connivent, obtuse; anther truncate, twice as broad at its base as at its top; pollen-masses ascending obliquely, converging upwards."——*Larger* than the last, into which it graduates, the two in all probability not specifically distinct. Perennial: flowers in June and July: grows in moist woods, thickets, and pastures. *Orchis bifolia: Eng. Bot.* pl. 22. *H. chl.* Bab. *Ann. Nat. Hist.* i. 374. 1275.

5. O'PHRYS. Linn. OPHRYS.

Calyx of 3 oblong, ribbed, equal, spreading leaves. Petals 2, narrow-oblong, smaller than the calyx, spreading, undivided. Lip without a spur, longer than the calyx, convex above, concave beneath, variously lobed. Anthers oblong, of 2 parallel cells, close together over the stigma. Glands of the stalks of the pollen-masses each in a distinct pouch. Germen oblong, furrowed, curved. Style short and thick, channelled in front; stigma a moist cavity under the anther. Capsule oblong, obtuse, angular. Seeds very numerous, minute.—Name, ὀφρυς, the eyebrow. 454.

1. **O. musci'fera.** Huds. *Fly Ophrys.* Lip twice the length of the calyx, with 4 expanded lobes, somewhat downy; petals linear; style obtuse.——*Stem* about a foot high: spike thin, of about six flowers which bear a strong resemblance to flies: calyx green: petals dark-red: lip with a pale-blue spot in the middle. Perennial: flowers in June: grows in pastures and meadows in the south-east of England: frequent. *Eng. Bot.* vol. i. pl. 64. *Eng. Fl.* vol. iv. p. 23. 1276.

2. **O. api'fera.** Huds. *Bee Ophrys.* Lip as long as the calyx, with 5 reflexed marginal lobes, the terminal lobe subulate, the rest hairy above; calyx coloured; style with a hooked point.——*Stem* about a foot high: spike thin: calyx rose-coloured: petals greenish: lip dark-brown, spotted with yellow. Perennial: flowers in April: grows in dry pastures in the south of England: frequent. *Eng. Bot.* vol. vi. pl. 383. *Eng. Fl.* vol. iv. p. 30. 1277.

3. **O. arach'nites.** Willd. *Late Spider Ophrys.* Lip longer than the calyx, dilated, somewhat tumid, with 5 shallow, inflexed, marginal lobes, the terminal lobe flattened; calyx coloured, column with a hooked point; petals deltoid, downy.——*Leaves* like those of *O. apifera*, usually narrower. Perennial: flowers in July: found in chalky pastures, near Folkstone, Kent, by Mr. G. E. Smith. *Eng. Bot. Suppl.* pl. 2596. 1278.

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4. **O. arani'fera.** Huds. *Early Spider Ophrys.* Lip as long as the calyx, roundish, hairy, with 4 shallow, reflexed, marginal lobes; style acute, incurved; petals linear, smooth.——*Stem* about six inches high: spike few-flowered: calyx and petals green: lip dark-brown, with paler lines. Perennial: flowers in April: grows in dry pastures in the south of England: rare. *Eng. Bot.* vol. i. pl. 65. *Eng. Fl.* vol. iv. p. 31. The *O. fucifera, Drone Orchis,* is a variety of this plant, with the lip usually undivided, with a spreading wavy margin. *Eng. Bot. Suppl.* pl. 2649. *Eng. Fl.* vol. iv. p. 32. 1279.

6. HERMI'NUM. Br. MUSK-ORCHIS.

Calyx of 3 ovate, equal, spreading, permanent leaves. Petals 2, ovate, fleshy, spreading, 3-lobed, acute, nearly as long as the calyx. Lip without a spur, deeply 3-lobed, slightly tumid at the base beneath, rather longer than the petals and similar to them. Anthers roundish, of 2 cells, close together, over the stigma. Glands of the stalks of the pollen-masses naked, distinct. Germen oblong, twisted, furrowed. Style short and thick; stigma a moist cavity in front. Capsule oblong, triangular, nearly straight. Seeds very numerous.—Name from *hermin,* a bed-post. 455.

1. **H. monor'chis.** L. Br. *Green Musk-orchis,* or *Tway-blade.* Root-leaves 2, lanceolate.——*Root* of several woolly fibres, and 1 globular hairy tuber: stem about six inches high: spike dense: flowers small, numerous, greenish-yellow, with a musky smell. Perennial: flowers in July: grows in dry pastures in the east and south-east of England: frequent. *Eng. Bot.* vol. i. pl. 71. *Eng. Fl.* vol. iv. p. 27. *Ophrys monorchis.* 1280.

7. GOODYE'RA. Br. GOODYERA.

Calyx of 3 ovate, spreading, permanent, coloured leaves, the 2 lateral ones somewhat dilated at the outer margin, and meeting under the nectary. Petals 2, semi-ovate, erect, converging. Lip spurless, as long as the petals, prominent, inflated and obovate beneath, terminating above in an oblong point. Anther roundish, parallel to the stigma, of 2 parallel cells close together. Germen obovate, angular, incurved. Style short; stigma prominent, pointed. Capsule nearly elliptical, angular. Seeds minute.—Named after Mr. *Goodyer,* an English botanist. 456.

1. **G. re'pens.** L. Br. *Creeping Goodyera.* Leaves ovate; spike spiral; lip and petals lanceolate.——*Root* creeping: stem about six inches high: spike spiral, the flowers inclining one way, pale-green, with a sweet scent. Perennial: flowers in July: grows in pine woods and plantations in the north of Scotland. *Satyrium repens,* Linn. *Eng. Bot.* vol. v. pl. 289. *Eng. Fl.* vol. iv. p. 33. 1281.

8. NEOTTIA. Jacq. LADY'S-TRESSES.

Calyx superior, of 3 ovate, converging, permanent, coloured leaves. Petals 2, oblong, decurrent on the ovary, erect, con-

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verging under the upper leaf of the calyx. Lip spurless, as long as the calyx, prominent, oblong, bluntish, keeled beneath. Anther roundish, parallel to the stigma, of 2 cells close together. Germen obovate, with 3 furrows; style short, thick, cylindrical; stigma prominent, globose, with 2 points. Capsule obovate, with 3 furrows. Seeds very minute.—Name, νεοττια, a bird's-nest. 457.

1. **N. spira'lis.** L. Rich. *Fragrant Lady's-tresses.* Leaves ovate, stalked; spike twisted, the flowers pointing one way; bracts downy, tumid; lip ovate, entire.——*Leaves* all radical: stalk about four inches high: flowers small, white, highly fragrant. Perennial: flowers in August and September: grows in pastures and meadows in various parts of England. *Eng. Bot.* vol. viii. pl. 541. *Eng. Fl.* vol. iv. p. 35. *Ophrys spiralis.* 1282.

2. **N. æstiva'lis.** L. *Summer Lady's-tresses.* Root-leaves oblongo-lanceolate, those of the stem narrowly lanceolate; spike loose, twisted.——*Root* of elongated cylindrical tubers. Perennial: flowers in July and August: grows in marshy ground in Jersey, and in the New Forest, Hants. *Eng. Bot. Suppl.* pl. 2817. *Brit. Fl.* 4th ed. p. 318. *Prim. Fl. Sarn.* p. 93. 1283.

3. **N. cer'nua.** Willd. *Drooping Lady's-tresses.* Leaves lanceolate, as tall as the stalk; spike 3-ranked, twisted; bracts smooth.——*Root* of 2 slender fleshy elongated tubers: leaves erect, acute, 3-ribbed: spike ovate, dense, of about 18 white flowers. Perennial: flowers in July: south of Ireland: *N. gemmipara,* Sm. *Eng. Bot. Suppl.* pl. 2786. *Eng. Fl.* vol. iv. p. 36. 1284.

9. LISTE'RA. Br. LISTERA. BIRD'S-NEST. TWAY-BLADE.

Calyx of 3 ovate, spreading, permanent leaves. Petals lanceolate, spreading, nearly as long as the calyx. Lip spurless, much longer than the petals, 2- or 4-lobed, the disk with a longitudinal, central furrow. Anther oblong, parallel to the stigma, of 2 close, parallel linear cells. Germen roundish, angular; style cylindrical, very short. Stigma of 2 unequal flat lips, the lower rounded, very short. Capsule oblong, obtuse, ribbed. Seeds minute.—Named after Dr. Martin *Lister,* an English naturalist. 458.

1. **L. ova'ta.** L. Br. *Common Tway-blade.* Leaves elliptical, opposite; lip with 2 linear lobes.——*Root* of numerous long cylindrical, smooth radicles, connected in bundles by 1 common fibre: stems from one to two feet high, bearing 2 sessile, striate leaves: spike racemose, of numerous green flowers. Perennial: flowers in June: grows in woods and pastures: frequent. *Eng. Bot.* vol. xxii. pl. 1548. *Eng. Fl.* vol. iv. p. 37. 1285.

2. **L. corda'ta.** L. Br. *Heart-leaved Mountain Tway-blade.* Leaves cordate, opposite; lip 4-lobed.——*Root* of a few long fibres: stem three or four inches high: only two leaves on the stem: spike of a few small, green flowers. Perennial: flowers in July: grows in woods and on moors, in the north of England and in Scotland: frequent.

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Ophrys c., Linn. *Eng. Bot.* vol. v. pl. 358. *Eng. Fl.* vol. iv. p. 38: *Ophrys cordata.* 1286.

3. **L. Nidus-Avis.** L. Hook. *Bird's-nest Listera.* Stem leafless, closed with sheathing scales; lip with 2 spreading lobes.——*Root* of very numerous, tufted, cylindrical fibres: stem about a foot high: no leaves: flowers pale-brown. Perennial: flowers in May and June: grows in shady woods among dead leaves: not common. *Ophrys N.*, Linn. *Eng. Bot.* vol. i. pl. 48. *Eng. Fl.* vol. iv. p. 39. 1287.

10. EPIPACTIS. Br. Rich. HELLEBORINE.

Calyx of 3 ovate, acute, spreading, permanent leaves. Petals 2, ovate, spreading, as long as the calyx. Lip scarcely spurred, not longer than the petals, concave at the base, contracted in the middle, undivided at the end. Anther terminating the style, fixed, of 2 close parallel cells. Germen oblong, angular; style incurved; stigma close under the anther, nearly square, prominent, angular, undivided. Capsule oblong, angular. Seeds small, roundish.—Name given by the Greeks to a kind of Hellebore. 459.

1. **E. latifo'lia.** All. *Broad-leaved Helleborine.* Leaves ovate, embracing the stem; flowers drooping; lower bracts longer than the flowers; lip shorter than the calyx, entire, with a minute point. ——*Root* creeping: stem from one to two feet high: leaves becoming gradually narrower as they ascend: spike long, loose, greenish-purple. Perennial: flowers in July and August: grows in woods and pastures: not common. *Eng. Bot.* vol. iv. p. 269. *Eng. Fl.* vol. iv. p. 40. *Serapias latifolia.* 1288.

2. **E. me'dia.** Fr. *Intermediate Helleborine.* "Leaves ovate-oblong, the upper ones lanceolate-acute, lower bracts longer than the flower and fruit, terminal division of the lip entire, triangular-cordate, acute, as long as the lanceolate sepals and petals, its keel crenate above." Bab.——*Perennial:* flowers in August: grows in woods—Salop, Matlock, Abberly. Bab. *Man.* 314. 1289.

3. **E. ova'lis.** Bab. *Oval-leaved Helleborine.* Leaves ovate-oblong, acute, the upper ones lanceolate, 1 or 2 lowest bracts longer than the flower, but shorter than the fruit, terminal division of the lip transversely oval, acute, as long as the ovate acute sepals and petals, its keel plicate-crenate above." Bab.——*Perennial:* flowers in July: grows on the sides of mountains, near Settle, Yorkshire. Bab. *Man.* 315. 1290.

4. **E. palus'tris.** Sw. *Marsh Helleborine.* Leaves lanceolate, embracing the stem; flowers drooping; lip rounded, obtuse, crenate, as long as the petals, with a notched protuberance on the disk.——*Root* creeping: stem about a foot high: flowers few, whitish, tinged with crimson, forming a loose ovate spike. Perennial: flowers in July and August: grows in wet meadows and marshes: not common. *Eng. Bot.* vol. iv. pl. 270. *Eng. Fl.* vol. iv. p. 42. *Serapias palustris.* 1291.

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11. CEPHALAN'THERA. Rich. CEPHALANTHERA.

Calyx of 3 ovate, acute, converging, permanent leaves. Petals ovate, erect, as long as the calyx. Lip scarcely spurred, saccate at the base, contracted in the middle, undivided and recurvate at the end. Anther terminal, erect, moveable, of 2 close parallel cells. Germen oblong; style incurved; stigma transverse. Capsule sessile, twisted.—Name, κεφαλον, the head, and ανθηρα, anther. 460.

1. **C. grandiflo'ra.** L. Bab. *Large White Cephalanthera.* Leaves lanceolate, inclining to elliptical; bracts longer than the germen; flowers sessile, erect; lip abrupt, shorter than the calyx, with elevated lines on the disk.——*Root* creeping: stem a foot high: flowers large, white. Perennial: flowers in June: grows in woods: rare. *Eng. Bot.* vol. iv. pl. 271. *Eng. Fl.* vol. iv. p. 43. *Serapias grandiflora*, Linn. 1292.

2. **C. ensifo'lia.** L. Rich. *Narrow-leaved White Cephalanthera.* Leaves lanceolate, pointed; bracts much shorter than the germen; flowers sessile, erect; lip abrupt, half the length of the calyx, with elevated lines on the disk.——*Root* creeping: stem more than a foot high: flowers large, white. Perennial: flowers in May and June: grows in mountainous woods: rare. *Eng. Bot.* vol. vii. pl. 494. *Eng. Fl.* vol. iv. p. 44. *Serapias ensifolia.* 1293.

3. **C. ru'bra.** L. Rich. *Purple Cephalanthera.* Leaves lanceolate; bracts longer than the germen; flowers sessile, erect; lip tapering to a point, with elevated undulating lines on the disk.——*Root* creeping: stem about a foot high: flowers large, rose-coloured, in a loose spike. Perennial: flowers in May and June: grows in woods: very rare. Gloucestershire, and Methven woods in Perthshire. *Eng. Bot.* vol. vii. pl. 437. *Eng. Fl.* vol. iv. p. 45. *Serapias rubra.* 1294.

12. MALA'XIS. Sw. BOG-ORCHIS.

Calyx of 3 oblong, widely spreading, permanent leaves. Petals 2, spreading, oblong, smaller than the calyx. Lip spurless, undivided. Anther terminal, hemispherical, deciduous, of 2 close cells, opening longitudinally. Germen obovate, angular; style convex at the back, flat or concave in front; stigma close beneath the anther in front. Capsule oblong, ribbed. Seeds numerous, minute.—Name from μαλακος, soft. 461.

1. **M. paludo'sa.** L. Sw. *Least Bog-orchis. Marsh Tway-blade.* Leaves about 4, ovate, rough at the extremity; stalk 5-cornered: lip entire, concave, acute, half the length of the calyx.——*Roots* bulbous, ovate: stem from three to five inches high: spike long, slender, of small greenish flowers. Perennial: flowers in July: grows in spongy bogs: not common. *Ophrys p.*, Linn. *Eng. Bot.* vol. i. pl. 72. *Eng. Fl.* vol. iv. p. 47. 1295.

13. LIPA'RIS. Rich. LIPARIS.

Calyx of 3 linear, spreading, permanent leaves. Petals 2,

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linear, spreading, smaller than the calyx. Lip spurless, undivided, reflexed. Anther terminal, deciduous, of 2 distinct cells. Germen oblong, straight. Capsule oblong, straight, on a twisted stalk.—Name from λιπαρος, fat. 462.

1. L. Lœse'lii. L. Rich. *Two-leaved Bog-orchis.* Leaves 2, narrow, elliptical; stalk 3-cornered; lip obovate, channelled, entire, recurved, longer than the calyx.——*Tuber* ovate, greenish; spike few-flowered: flowers pale-yellow. Perennial: flowers in July: grows in sandy bogs in the south of England: rare. *Ophrys Lœselii,* Linn. *Eng. Bot.* vol. i. pl. 47. *Eng. Fl.* vol. iv. p. 48. 1296.

14. CORALLORHI'ZA. Hall. CORAL-ROOT.

Calyx of 3 lanceolate, spreading, permanent leaves. Petals 2, oblong, ascending, nearly as long as the calyx. Lip with a free or adnate spur, 3-lobed, rather shorter than the calyx. Anther terminal, hemispherical, 2-celled. Germen oblong. Style incurved, shorter than the petals, convex behind, channelled before; stigma obsolete, beneath the anther. Capsule oblong. Seeds numerous; extremely minute.—Name from κοραλλιον, coral, and ῥιζα, a root. 463.

1. C. inna'ta. Br. *Spurless Coral-root.* Spur very short, not distinct from the lip.——*Root* of numerous compound branches, of a pale-brown colour, resembling coral in its mode of ramification: no leaves; stalk about five inches high: spike of from 5 to 10 pale-yellowish flowers. Perennial: flowers in May and June: grows in marshy places in Scotland: rare. Near the head of Little Loch Broom, in Ross-shire; Ravelrig Bog, and bog to the south of Dalmahoy-hill, near Edinburgh; sands of Barry, near Dundee. *Ophrys Corallorhiza,* Linn. *Eng. Bot.* vol. xx. pl. 1547. *Eng. Fl.* vol. iv. p. 49. 1297.

DIANDRIA.

15. CYPRIPE'DIUM. Linn. LADY'S-SLIPPER.

Calyx of 3 lanceolate, spreading, coloured leaves, the upper one broadest. Petals 2, about the same length, spreading, narrow-lanceolate. Lip spurless, inflated, obtuse, prominent, having an irregular longitudinal fissure above. Filaments 2, on the style, lateral, oblong; anthers lateral, elliptical. Germen oblong, triangular; style short, somewhat compressed, terminating above the stamens in a dilated lobe; stigma beneath this lobe, and parallel to it, dilated and flattened. Capsule oblong, angular. Seeds oblong, numerous.—Name from Κυπρις, Venus, and ποδιον, a slipper. 464.

1. C. Calce'olus. L. *Common Lady's-slipper.* Stem leafy; terminal lobe of the style elliptical, obtuse, channelled; lip somewhat

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compressed, shorter than the petals.—*Root* tuberous, branching: stem a foot high: flower solitary, terminal, large, dark-brown. Perennial: flowers in June: grows in woods: has been found in a few places in the north of England only. *Eng. Bot.* vol. i. pl. 1. *Eng. Fl.* vol. iv. p. 51. 1298.

HEXANDRIA.

16. ARISTOLO'CHIA. Linn. BIRTHWORT.

Perianth tubular, coloured, permanent; nearly globose at the base, with the mouth dilated on one side. Anthers 6, sessile, on the outer surface of a notched cup, crowning the germen, 2-celled, each cell 2-valved. Germen inferior, oblong, angular; style very short; stigma nearly globular, 6-lobed, the summit concave. Capsule large, oval, 6-cornered, 6-celled, 6-valved. Seeds numerous in each cell, triangular.—Named from its supposed power of arresting uterine discharges. 465.

1. A. Clemati'tis. L. *Common Birthwort.* Leaves cordate; stem erect; flowers aggregate, erect.——*Roots* long, slender: stems about two feet high, erect, zig-zag, leafy, unbranched: flowers, several from the bosom of each leaf, on simple stalks, pale-yellow. Perennial: flowers in July and August: grows in woods and thickets, and among ruins in the south of England, but is not indigenous, having formerly been cultivated. *Eng. Bot.* vol. vi. pl. 398. *Eng. Fl.* vol. iv. p. 53. 1299.

CLASS XXI. MONŒCIA.

Plants having Flowers furnished with Stamens only, and Flowers furnished with Pistils only, on the same individual.

Order I. MONANDRIA. *One Stamen.*

1. EUPHOR'BIA. *Involucre* with numerous *barren* or *staminiferous* flowers, and one *fertile* or *pistilliferous*.
   Barren flower. *Calyx* none. *Corolla* none.
   Fertile flower. *Calyx* none. *Corolla* none. *Capsule* 3-lobed, 3-seeded. *Styles* 3-cleft.
2. ZOSTE'RA. *Stamens* and *pistils* inserted in 2 rows on one side of a spadix. *Spatha* foliaceous. *Anthers* ovate, sessile, alternating with the ovate germens; *style* bifid. *Fruit* 1-seeded.
3. ZANNICHEL'LIA. *Involucre* none.
   Barren flower. *Calyx* none. *Corolla* none.
   Fertile flower. *Calyx* of one leaf. *Corolla* none. *Germens* 4 or more; *style* 1; *stigma* peltate. *Seeds* 4, stalked.

(*Callitriche.* *Typha minor.*)

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Order II. DIANDRIA. *Two Stamens.*

4. CALLITRI'CHE. *Barren flower. Perianth* of 2 leaves or none; *anther* 1-celled.
Fertile flower. Germen 4-lobed, lobes laterally compressed, indehiscent, with 4 1-seeded cells.

(*Calex pulicaris, stellulata, and other species.*)

Order III. TRIANDRIA. *Three Stamens.*

5. TY'PHA. *Flowers* in a cylindrical, hairy spike.
Barren flower. Calyx none. *Corolla* none. *Anthers* 3 on each filament.
Fertile flower. Calyx none. *Corolla* none. *Fruit* on a hairy stalk.
6. SPARGA'NIUM. *Flowers* in globular heads.
Barren flower. Calyx 3-leaved. *Corolla* none.
Fertile flower. Calyx 3-leaved. *Corolla* none. *Drupe* dry.
7. CA'REX. *Flowers* in imbricated spikes.
Barren flower. Calyx a glume. *Corolla* none.
Fertile flower. Calyx a glume. *Corolla* of one piece, urceolate, investing the loose *seed.*
8. KOBRE'SIA. *Spikelets* aggregated, with a scale-like bract at the base, few-flowered.
Barren flower. Stamens 3.
Fertile flowers. Style 1. *Stigmas* 3. *Achene* surrounded by a convolute scale.

(*Amaranthus.*)

Order IV. TETRANDRIA. *Four Stamens.*

9. LITTOREL'LA. *Barren flower. Calyx* 4-leaved. *Corolla* with 4 segments. *Stamens* capillary, very long.
Fertile flower. Calyx none. *Corolla* urceolate, unequally 3-cleft. *Style* very long. *Nut* 1-celled.
10. AL'NUS. *Barren flower. Scales* of the *catkin* permanent, 3-flowered. *Perianth* deeply 4-cleft. *Stamens* 4.
Fertile flower. Scales of the *catkin* permanent, 2-flowered. *Perianth* none. *Styles* 2. *Nut* compressed with a membranous margin.
11. BU'XUS. *Barren flower. Calyx* 2-leaved, with a bract at the base. *Petals* 2. Rudiment of a germen.
Fertile flower. Calyx 2-leaved, with 2 bracts. *Petals* 3. *Styles* 3. *Capsule* 3-celled. *Seeds* 2.
12. UR'TICA. *Barren flower. Perianth* 4-leaved. *Nectary* central, cup-shaped. *Stamens* as long as the perianth.
Fertile flower. Perianth 2-leaved. *Fruit* an achene.
13. ERIOCAU'LON. *Flowers* in a compact scaly head.
Barren flowers in the middle. *Perianth* with 4 or 6 segments. *Stamens* 4 or 6.
Fertile flowers in the circumference. *Petals* 4 or 6. *Style* 1. *Capsule* superior, 2- or 3-lobed. *Seeds* solitary.

(*Myrica.*)

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Order V. PENTANDRIA. *Five Stamens.*

14. XAN'THIUM. *Barren flower. Involucre* imbricated, many-flowered, with intermediate scales. *Corolla* funnel-shaped, 5-cleft.
Fertile flower. Involucre of 2 leaves, prickly, inclosing 2 flowers. *Corolla* none. *Fruit* 1-seeded, inclosed by the enlarged involucre.
15. AMARAN'THUS. *Barren flower. Perianth* of 3 or 5 leaves. *Stamens* 3 or 5.
Fertile flower. Perianth of 3 or 5 leaves. *Styles* 3 or 2. *Capsule* 1-celled. *Seed* one.
16. BRYO'NIA. *Barren flower. Calyx* 5-toothed. *Corolla* 5-cleft. *Filaments* 3. *Anthers* 5.
Fertile flower. Calyx 5-toothed, deciduous. *Corolla* 5-cleft. *Style* 3-cleft. *Berry* inferior. *Seeds* few.
(*Fagus. Quercus. Atriplex.*)

Order VI. POLYANDRIA. *More than five Stamens.*

17. CERATOPHYL'LUM. *Barren flowers. Calyx* many-cleft. *Stamens* from 16 to 20.
Fertile flowers. Perianth many-cleft. *Stigma* sessile, oblique. *Drupe* compressed.
18. MYRIOPHYL'LUM. *Barren flowers. Calyx* 4-leaved. *Petals* 4. *Stamens* 8.
Fertile flowers. Calyx 4-lobed. *Petals* 4. *Stigmas* 4, sessile. *Drupes* 4.
19. SAGITTA'RIA. *Barren flowers. Perianth* 3-leaved. *Petals* 3. *Stamens* about 24.
Fertile flowers. Calyx 3-leaved. *Petals* 3. *Pistils* numerous. *Achenes* numerous, bordered.
20. A'RUM. *Stratha* inclosing a common stalk, naked above. *Perianth* none.
Barren flowers. Stamens numerous, in a dense ring, surmounted by a ring of abortive filaments.
Fertile flowers. Germens numerous, in a dense ring beneath the stamens, sessile. *Styles* none; *stigmas* downy. *Berry* 1-celled, with several seeds.
21. POTE'RIUM. *Barren flowers. Calyx* deeply 4-cleft. *Stamens* from 30 to 50.
Fertile flowers. Calyx deeply 4-cleft. *Pistils* 2. *Nut* 2-celled.
22. QUER'CUS. *Barren flowers* in a loose *spike* or *catkin*. *Perianth* divided into several segments. *Stamens* 8 or more.
Fertile flowers. Involucre scaly, undivided. *Perianth* with 6 deep segments. *Style* 1. *Nut* solitary, closely invested at its base with the hemispherical outer calyx.
23. FA'GUS. *Barren flowers* in a globose catkin. *Perianth* with 6 segments. *Stamens* 8 to 15.
Fertile flowers. Involucre prickly, deeply divided into several segments, 2- or 3-flowered. *Perianth* superior, 5- or 6-cleft. *Styles* 5 or 6. *Nuts* 2, triquetrous, invested by the enlarged involucre.

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24. CASTA'NEA. *Barren flowers* in a long cylindrical spike. *Perianth* 6-cleft. *Stamens* 8 to 20.
Fertile flowers. Involucre 4-lobed, 3-flowered. *Perianth* urceolate, 5- or 6-lobed, with rudiments of stamens. *Ovary* with 3 to 8 cells, each cell 2-seeded, all abortive but one; stigmas filiform. *Nuts* 1 or 2, within the enlarged prickly involucre.
25. BE'TULA. *Barren flowers* in a cylindrical *catkin* with ternate scales. *Perianth* none. *Stamens* 10 or 12.
Fertile flowers in an oblong *catkin*, with 3-lobed, 3-flowered scales. *Perianth* none. *Styles* 2. *Nut* winged, deciduous.
26. CARPI'NUS. *Barren flowers* in a cylindrical *catkin*, with rounded scales. *Stamens* 10 or more: anthers 1-celled.
Fertile flowers in a loose *catkin* with small deciduous scales. *Perianth* with 3 deep, ovate, acute, permanent segments. *Styles* 2. *Nut* ovate, angular, naked.
27. CO'RYLUS. *Barren flowers* in a cylindrical *catkin*, its scales 3-cleft. *Perianth* none. *Stamens* 8 or more.
Fertile flowers surrounded by a scaly involucre. *Styles* 2. *Nut* solitary, hard, invested by the enlarged, leathery involucre.

Order VII. MONADELPHIA. *Filaments united.*

28. PI'NUS. *Barren flowers* in a *catkin*, naked. *Stamens* numerous, on a common stalk.
Fertile flowers in a *catkin* of imbricated, close, stiff, 2-flowered scales. *Seeds* 2 to each scale, winged.

MONŒCIA.—MONANDRIA.

1. EUPHOR'BIA. Linn. SPURGE.

Involucre of 1 leaf, with 4 or 5 marginal lobes, permanent, containing several barren flowers, and 1 central fertile flower, all destitute of calyx and corolla. Four or five fleshy, tumid, abrupt, coloured, glandular bodies, alternating with the segments.

Barren Flower. Filament simple, capillary, erect. Anther of 2 globular separate lobes.

Fertile Flower. Germen roundish, 3-lobed. Styles 3, equal, cleft, spreading, permanent; stigmas bluntish. Capsule roundish, 3-lobed, 3-celled. Seeds 1 in each cell, large, roundish.—Named after *Euphorbus*, physician to Juba. 466.

* *Stem forked.*

1. E. Pep'lis. L. *Purple Spurge.* Leaves oblong-cordate; involucres solitary, axillar; stems procumbent; capsules smooth.—*Stems* about six inches long, glaucous, tinged with purple: leaves opposite, on short stalks: flowers solitary, small, from the forks of the stem: glands 4, rounded. Annual: flowers from June to September: grows on the sandy coasts of Devonshire and Cornwall; Channel Islands. *Eng. Bot.* vol. xxviii. pl. 2002. *Eng. Fl.* vol. iv. p. 59. 1300.

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** *Umbel of 3 rays.*

2. **E. Pep'lus.** L. *Petty Spurge.* Umbel 3-rayed, forked; bracts ovate; leaves broadly obovate, stalked; glands crescent-shaped.——*Six* or eight inches high, pale-green: umbel large. Annual: flowers in July and August: grows in loose soil, in corn-fields, gardens, &c.: common. *Eng. Bot.* vol. xiv. pl. 959. *Eng. Fl.* vol. iv. p. 60. 1301.

3. **E. exi'gua.** L. *Dwarf Spurge.* Umbel 3-rayed, forked; bracts lanceolate; leaves linear-lanceolate; glands horned.——*From* three to six inches high: flowers small. Annual: flowers in July: grows in corn-fields and loose soil: frequent. *Eng. Bot.* vol. xix. pl. 1336. *Eng. Fl.* vol. iv. p. 61. 1302.

*** *Umbel of 4 rays.*

4. **E. La'thyris.** L. *Caper Spurge.* Umbel 4-rayed, forked; leaves in 4 rows, opposite, sessile, entire, cordate at the base.——*Stem* two or three feet high, smooth, purplish: bracts cordate. Biennial: flowers in June and July: grows in thickets, but is not indigenous. Thickets about Upton, near Reading, Berks: Steep Holmes in the Severn. *Eng. Bot.* vol. xxxii. pl. 2255. *Eng. Fl.* vol. iv. p. 61. 1303.

**** *Umbel of 5 rays.*

5. **E. helioscopia.** L. *Sun Spurge. Wart-wort.* Umbel of 5 forked rays; bracts and leaves obcordate, serrate; glands 4, undivided; capsule smooth.——*From* six inches to a foot high. Annual: flowers from June to October: grows in corn-fields and gardens: common. Like others of the genus, this species abounds with an acrid milky juice, which is sometimes used for destroying warts. *Eng. Bot.* vol. xiii. pl. 883. *Eng. Fl.* vol. iv. p. 63. 1304.

6. **E. Portlan'dica.** L. *Portland Spurge.* Umbel 5-rayed, forked; bracts somewhat cordate, concave; leaves oblong, pointed, smooth: glands 4, undivided; capsules rough at the angles.——*Stems* about a foot high, ascending: rays of the umbel repeatedly forked. Perennial: flowers in August: grows on the sea-coast in the south and west of England, Isle of Man, south of Scotland, and near Dublin. *Eng. Bot.* vol. vii. pl. 441. *Eng. Fl.* vol. iv. p. 62. 1305.

7. **E. Para'lias.** L. *Sea Spurge.* Umbel about 5-rayed, branched; bracts broadly cordate; leaves oblong, imbricated upwards; glands 5; capsule nearly smooth.——*Stem* about a foot high, with very numerous leaves. Perennial: flowers in August and September: grows in sand on the sea-shore in England, and near Dublin: rare. *Eng. Bot.* vol. iii. pl. 195. *Eng. Fl.* vol. iv. p. 63. 1306.

8. **E. platyphyl'la.** L. *Broad-leaved Warty Spurge.* Umbel of about 5 forked rays; leaves lanceolate, finely serrate; glands 4, rounded, entire; capsule warty.——*Stem* erect, about a foot high, with numerous leaves above. Annual: flowers in July and August: grows in corn-fields in England: rare. *Eng. Bot.* vol. v. pl. 333. *Eng. Fl.* vol. iv. p. 64: *E. stricta.* 1307.

9. **E. palus'tris.** L. *Marsh Spurge.* "Umbel irregular, about 5-fid, then 3-fid and 2-fid; bracts all elliptical, glabrous; leaves broadly lanceolate, minutely serrate, slightly hairy: involucral glands transversely oval; capsule warted, hairy; seeds obovate, minutely punc-

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tate, smooth." Bab.——*Perennial:* flowers in May and June: grows in shady places near Bath. *Eng. Bot. Suppl.* 2787. Bab. *Man.* 281. 1308.

10. **E. corallo'ides.** L. *Coral-like Hairy Spurge.* "Umbel 5-fid, then 3-fid and 2-fid; bracts ovate-oblong, the tertiary ones all hairy; leaves lanceolate, minutely serrate, woolly; capsule nearly smooth, woolly; seeds obovate, minutely punctate, and with faint reticulate bands." Bab.——*Flowers* in May and June: Slinfold, Sussex: not indigenous. *Eng. Bot. Suppl.* pl. 2837. Bab. *Man.* 281. 1309.

***** *Umbel of 6 or more rays.*

11. **E. E'sula.** L. *Leafy-branched Spurge.* Umbel of numerous forked rays; bracts somewhat cordate; leaves linear or oblong, uniform; glands roundish, with 2 lateral horns: capsule smooth.——*Stems* a foot and a half high: leaves numerous. Perennial: flowers in July: grows in woods: rare, but is perhaps never truly wild. At Abercorn, Gladsmuirkirk, and West Pilton, near Edinburgh; at Slinford, Sussex; and near Coldstream. *Eng. Bot.* vol. xx. pl. 1399. *Eng. Fl.* vol. iv. p. 65. 1310.

12. **E. Cyparis'sias.** L. *Cypress Spurge.* Umbel of numerous forked rays; bracts somewhat cordate; stem-leaves lanceolate, those of the branches linear; glands lunate; capsule smooth.——*Stem* about a foot high. Perennial: flowers in June and July: grows in woods and the borders of fields: rare, and not indigenous. *Eng. Bot.* vol. xii. pl. 840. *Eng. Fl.* vol. iv. p. 66. 1311.

13. **E. Hiber'na.** L. *Irish Spurge.* Umbel of 6 forked rays; bracts ovate; leaves obovate; stem simple; glands reniform; capsule warty.——*Stem* nearly two feet high. Perennial: flowers in June: found in Kent by Mr. Hudson. The bruised root is said to be used in Ireland for poisoning fish. *Eng. Bot.* vol. xix. pl. 1337. *Eng. Fl.* vol. iv. p. 67. 1312.

14. **E. amygdalo'ides.** L. *Wood Spurge.* Umbel of about 6 forked rays, with numerous axillar stalks beneath; bracts rounded, perfoliate; leaves oblong, hairy; capsule smooth.——*The* whole plant downy. Perennial: flowers in March and April: grows in woods and thickets in England, and in the south of Ireland: not common. *Eng. Bot.* vol. iv. pl. 256. *Eng. Fl.* vol. iv. p. 68. 1313.

2. ZOSTE'RA. Linn. GRASS-WRACK.

Flowers imperfect. Stamens and pistils inserted in 2 rows on one side of a flattened spadix. Spatha foliaceous. Anther 1, ovate, sessile; ovary 1; style bifid; stigmas 2.—Name from ζωστης, a girdle. 467.

1. **Z. mari'na.** Linn. *Broad-leaved Grass-wrack.* Leaves linear, 3- to 7-nerved; peduncle short, thick; fruits striate.——*From* two to three or four feet long: spadix arising from a sheathing portion of the leaf: flowers without perianth: anthers and pistils arranged alternately in 2 rows. It is used for stuffing beds and pillows, also for packing glass and earthenware. Perennial: flowers in July and August: grows on the sea-shore, and on sand or mud banks. *Eng. Bot.* pl. 467. 1314.

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2. Z. angustifo'lia. Roth. *Narrow-leaved Grass-wrack.* Leaves linear, 1- to 3-nerved; peduncles slender, thickened upwards; fruits striate.——*Smaller* than the last, with more slender leaves. Perennial: flowers in July and August: grows on the sea-shore, and in creeks and salt-water pools. 1315.

3. Z. na'na. Roth. *Dwarf Grass-wrack.* Leaves linear, 1-nerved; peduncles filiform; fruits smooth.——*Perennial:* flowers in July and August: Dover, Poole, Isle of Wight. *Eng. Bot. Suppl.* pl. 2931. 1316.

3. ZANNICHEL'LIA. Linn. HORNED POND-WEED.

Barren flower. Perianth none. Filament solitary, erect; anther oblong, erect, 2- or 4-celled.

Fertile flower solitary, by the side of the barren flower. Calyx of 1 small, cleft leaf, inferior. Germens 4 or 5, stalked, oblong, incurved; style one to each germen; stigma 1, peltate, ovate, dilated. Capsules stalked, oblong, incurved, 1-celled, 1-valved, tipped with the permanent style. Seed solitary.—Named after *J. J. Zannichelli*, a Venetian botanist. 468.

1. Z. palus'tris. L. *Common Horned Pond-weed.* Anther 4-celled; stigmas entire.——*Stem* twelve or eighteen inches long, filiform, branched, floating: leaves opposite, linear: flowers axillar. Annual: flowers in July: grows in ponds and ditches: frequent. *Eng. Bot.* vol. xxvi. pl. 1844. *Eng. Fl.* vol. iv. p. 70. 1317.

DIANDRIA.

4. CALLITRI'CHE. Linn. WATER-STARWORT.

Perianth none. Flowers minute, axillar, with 2 bracts at the base.

Barren Flower. Stamen 1, rarely 2; filament filiform; anther reniform, 1-celled, opening transversely at the summit.

Fertile Flower. Germen solitary, 4-angled, 4-celled; styles 2, subulate. Fruit 4-celled, 4-lobed, lobes indehiscent, compressed, 1-seeded, cohering only at the axis.—Name from καλος, beautiful, and θριξ, hair. 469.

1. C. ver'na. Linn. *Vernal Water-Starwort.* Fruit bearing peduncles very short, with 2 falcate bracts at their base; fruit regularly tetragonal, each portion bluntly keeled at the back.——*Stems* feeble, numerous, branched, leafy: leaves varying from linear to oval, the upper 3-nerved and crowded. When the lobes are slightly winged at the back, it is *C. platycarpa*, Kutz., *Eng. Bot. Suppl.* pl. 2864. Annual: flowers from April to September: grows in pools, ditches, and brooks: common. *Eng. Bot.* vol. xi. pl. 722. 1318.

2. C. peduncula'ta. De C. *Pedunculated Water-Starwort.* Fruit bearing peduncles elongated, without bracts at the base; fruit regularly tetragonal, each lobe bluntly keeled. ——*Leaves* all linear.

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Annual: flowers from June to September: grows in ditches, in Shropshire, Sussex, and Jersey. *Eng. Bot. Suppl.* pl. 2606. 1319.

3. **C. autumna'lis.** L. *Autumnal Water-Starwort.* Fruit bearing peduncles, very short, without bracts at the base; fruit irregularly tetragonal, each lobe broad and acutely winged.——*Leaves* all linear: fruit larger than in the other species. Annual: flowers from July to October: grows in the Lochs of Drum, Cluny, and Forfar, Scotland; in Anglesea, and near London. *Eng. Bot. Suppl.* pl. 2732. 1320.

TRIANDRIA.

5. TYPHA. Linn. REED-MACE.

Flowers very numerous, densely arranged on a cylindrical stalk.

Barren Flowers sessile on the terminal part of the stalk, which is hairy or scaly. Perianth none. Anthers about 3, oblong, furrowed, drooping, placed on a common filament.

Fertile Flowers on the lower part of the same stalk. Perianth none. Germen superior, oblong, stalked; style capillary; stigma simple; seed solitary, ovate, on a bristly stalk.—Named from τυφος, a marsh. 470.

1. **T. latifo'lia.** L. *Great Cat's-tail,* or *Reed-mace.* Leaves linear, somewhat convex beneath; spike continuous, its common stalk hairy. ——*Stems* about six feet high, erect, round, leafy at the bottom: spike about a foot long, brown. Perennial: flowers in July: grows in the borders of ponds, lakes, and rivers: frequent. *Eng. Bot.* vol. xxi. pl. 1455. *Eng. Fl.* vol. iv. p. 71. 1321.

2. **T. angustifo'lia.** L. *Lesser Cat's-tail,* or *Reed-mace.* Leaves linear, convex beneath, channelled above; barren and fertile spikes separated from each other, the common stalk scaly.——*Stems* about four feet high. Perennial: flowers in June and July: grows in pools and ditches: rare. *Eng. Bot.* vol. xxi. pl. 1456. *Eng. Fl.* vol. iv. p. 72. 1322.

6. SPARGA'NIUM. Linn. BUR-REED.

Flowers arranged in several dense heads.

Barren Flowers numerous, in 1 or more superior heads. Perianth of 3 or more oblong, equal, deciduous leaves. Filaments 3, capillary, erect, longer than the calyx; anthers roundish, 2-celled.

Fertile Flowers numerous, in dense heads under the former. Perianth of 3 or more oblong, equal, deciduous leaves. Germen superior, ovate. Stigma subulate, or ovate, oblique, downy on one side, permanent. Drupe obovate, beaked, dry, 1-celled. Nut solitary, ovate.—Name from σπαργανον, a little band. 471.

1. **S. ramo'sum.** Huds. *Branched Bur-reed.* Leaves triangular

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at the base, their sides concave; common flower-stalks branched; stigma subulate.——*Stem* erect, from two to three feet high. Perennial: flowers in July and August: grows in ditches and by the sides of lakes and pools: common. *S. erectum*, Linn. *Eng. Bot.* vol. xi. pl. 744. *Eng. Fl.* vol. iv. p. 74. 1323.

2. **S. sim'plex.** Huds. *Unbranched Bur-reed.* Leaves triangular at the base with the sides nearly flat; common flower-stalk unbranched; stigma linear.——*Stem* erect, about two feet high. Perennial: flowers in July and August: grows in ditches, and by the sides of lakes and pools: frequent. *S. erectum* β., Linn. *Eng. Bot.* vol. xi. pl. 745. *Eng. Fl.* vol. iv. p. 75. 1324.

3. **S. na'tans.** L. *Floating Bur-reed.* Leaves floating, flat, common flower-stalk unbranched; stigma ovate, very short.——*Stem* projecting a few inches from the water. Perennial: flowers in July: grows in pools, lakes, and rivers: common in Scotland. *Eng. Bot.* vol. iv. pl. 273. *Eng. Fl.* vol. iv. p. 75. 1325.

7. CA'REX. Linn. CAREX, or SEDGE.

Flowers imperfect, in one or more dense spikes.

Barren Flower. Perianth a lanceolate, permanent glume. Stamens 2 or 3; filaments capillary, longer than the glumes; anthers linear, 2-celled.

Fertile Flower. Perigyne urceolate, of 1 piece, inclosing the pistil. Style 1; stigmas 2 or 3. Achene compressed or triquetrous, included within the persistent perigyne.—Named from κειρω, to cut. 472.

I. *Spike simple, solitary.*

* *Stigmas* 2.

† *Diœcious.*

1. **C. dio'ica.** L. *Creeping Diœcious Carex.* Fruit ovate, ascending, shortly acuminate, rough near the summit; root creeping. ——*Six* inches high. Perennial: flowers in May and June: grows in boggy places: common. *Eng. Bot.* 543. 1326.

2. **C. Davallia'na.** Sm. *Prickly Diœcious Carex.* Fruit ovate-lanceolate, deflexed, much acuminated, rough near the summit; root tufted.——*Six* inches high. Perennial: flowers in June. Lansdown, near Bath; said to be now lost by drainage. *Eng. Bot.* 2123. 1327.

†† *Androgynous.*

3. **C. pulica'ris.** L. *Flea Carex.* Flowers of the upper half of the spike barren; fruit oblong-lanceolate, acuminate, deflexed, dark-brown, shining.——*Six* inches to a foot high, slender: leaves slender, erect. Perennial: flowers in June: grows in boggy places, common. *Eng. Bot.* 1051. 1328.

** *Stigmas* 3.

4. **C. rupes'tris.** All. *Rock Carex.* Spike linear, with a few fertile, lax flowers at the base; fruit obovate, scarcely longer than the persistent glumes.——*Stem* from three to eight inches high, rough

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upwards; leaves flat, ending in a long, tortuous, rough, attenuated, triangular point. Perennial: flowers in July and August: grows on high mountains. Glen Callater and Little Craigandal, Braemar; Inchnadamff, Sutherland; Glen Dole, Clova; Ben Lawers. *Eng. Bot. Suppl.* 2814. 1329.

5. **C. pauciflo'ra.** Lightf. *Few-flowered Carex.* Spike barren at the summit, lax, few-flowered; fruit subulate, reflexed, pale-yellow, striated.——*Four* to eight inches high. Perennial: flowers in June and July: grows in subalpine bogs: in many places in Scotland, and at Crag Lake in Northumberland. *Eng. Bot.* 2041. 1330.

II. *Spikelets androgynous, in a compound, continuous, or interrupted spike. Stigmas* 2.

* *Spikelets sterile at the summit.*

† *Root creeping.*

6. **C. incur'va.** Lightf. *Curved Carex.* Spikelets crowded into a dense, roundish head; fruit inflated, broadly ovate, nearly entire at the point, acuminate-rostrate.——*Stem* from two to six inches high, smooth, curved; leaves channelled. Perennial: flowers in June: grows on sandy sea-shores in the north of Scotland. *Eng. Bot.* 927. 1331.

7. **C. divi'sa.** Huds. *Bracteated Marsh Carex.* Spikelets crowded into a somewhat ovate head; bracts leafy, erect; fruit ovate, convex on one side, many-nerved, beak acutely bifid, with minutely serrated edges.——*Stem* about a foot high. Perennial: flowers in May and June: grows in marshes, chiefly near the sea: frequent on the southern and eastern coasts. *Eng. Bot.* 1096. 1332.

8. **C. interme'dia.** Good. *Soft Brown Carex.* Spikelets numerous, crowded into an oblong spike, the lower and terminal ones fertile, the intermediate barren; fruit ovate, nerved, with a narrow margin, bifid, longer than the glumes.——*Stems* about a foot high, erect. Perennial: flowers in May and June: grows in marshy places: common. *Eng. Bot.* 2042. 1333.

9. **C. arena'ria.** L. *Sea Carex.* Spikelets numerous, crowded into an oblong spike, upper barren, lower fertile, intermediate barren at the summit; fruit ovate, nerved, with a membranous margin, shorter than the glumes.——*Stem* from three inches to a foot high, 3-cornered, rough; root very long, creeping, and serving to fix the loose sand along the coast. Perennial: flowers in June: grows on the sea-shore: common. *Eng. Bot.* 928. 1334.

†† *Root fibrous.*

10. **C. vulpi'na.** L. *Great Compound Prickly Carex.* Spikelets compound, crowded into a cylindrical spike; fruit ovate-acuminate, plano-convex, nerved, divergent, with a rough-edged bifid beak; bracts setaceous.——*Stems* two feet high, erect, firm, the sides concave. Perennial: flowers in June: grows in wet shady places, and by the edges of rivers and pools: frequent. *Eng. Bot.* 307. 1335.

11. **C. murica'ta.** L. *Greater Prickly Carex.* Spike oblong, dense; fruit ovate-acuminate, spreading, acutely angular, with a long, rough-edged, bifid beak.——*Stems* a foot and a half high. Perennial: flowers in June: grows in marshes and gravelly pastures: frequent. *Eng. Bot.* 1097. 1336.

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12. **C. divu'lsa.** Good. *Grey Carex.* Upper spikelets approximate, lower distant; fruit erect, ovate, acute, with a roughish, bifid beak.——*Stems* from one to two feet high, rough superiorly. Perennial: flowers in May and June: grows in moist shady places: common. *Eng. Bot.* 629. 1337.

13. **C. teretius'cula.** Good. *Lesser Clustered Carex.* Spike dense, oblong; fruit ovate, with from 2 to 5 central nerves, on the convex surface, ending in a winged, serrulate, bidentate beak.——*Stems* one to two feet high, slender. Perennial: flowers in June: grows in boggy or wet meadows: not common. *Eng. Bot.* 1065. β *Ehrhartiana,* Hoppe, distinguished by having the root more cæspitose, the spike elongated, spikelets rather loosely aggregated, and the stem triquetrous above, has been found near Manchester. 1338.

14. **C. parado'xa.** Willd. *Small Panicled Carex.* Spikes panicled, lower rather distant; fruit ovate, with numerous short elevated ribs near its base, and ending in a serrulate, bidentate beak, which is not winged.——*Stems* from one to two feet high. Perennial: flowers in July: grows in boggy places. At Ladiston, near Mullingar, Ireland, Mr. D. Moore. Ascham Bog and Heslington Fields, York, Mr. Spruce. *Eng. Bot. Suppl.* 2896. 1339.

15. **C. panicula'ta.** L. *Great Panicled Carex.* Spike panicled, with elongated divergent spikelets; fruit ovate, obsoletely nerved, ending in an acuminate, bifid, winged, serrated beak.——*Stem* two or three feet high, acutely 3-cornered. Perennial: flowers in June: grows in bogs: frequent. *Eng. Bot.* 1064. 1340.

16. **C. Bœnninghausia'na.** Weihe. Upper spikelets crowded, lower remote; fruit erect, lanceolate, equalling the glumes, serrated from the base, beak bifid.——*Stems* from one to two feet high. Perennial: flowers in June: grows in wet meadows. Sussex; Hertfordshire; Edinburghshire; Banffshire. *Eng. Bot. Suppl.* 2910. 1341.

17. **C. axilla'ris.** L. *Axillar Clustered Carex.* Upper spikelets crowded, lower 2 or 3 distant, compound; fruit ovate-lanceolate, bifid, serrated above, longer than the glumes; lowest bract foliaceous, long, the other scarcely as long as the spikes.——*Stems* from one to two feet high, slender. Perennial: flowers in June: grows in wet meadows: rare. *Eng. Bot.* 993. 1342.

** *Spikelets sterile at the base.*

18. **C. remo'ta.** L. *Remote Carex.* Upper spikelets crowded, lower 3 or 4 distant, all simple; fruit ovate-acuminate, bifid, serrated above, longer than the glumes; bracts very long and narrow.——*Stems* from one to two feet high: slender. Perennial: flowers in June: grows in woods and moist shady places: frequent. *Eng. Bot.* 832. 1343.

19. **C. elonga'ta.** L. *Elongated Carex.* Spikelets numerous, approximate, without bracts; fruit oblong-acuminate, many-ribbed on both surfaces, longer than the glumes, beak rough-edged, slightly bifid.——*Stems* from one to two feet high. Perennial: flowers in June: grows in marshes: rare. *Eng. Bot.* 1920. 1344.

20. **C. stellula'ta.** Good. *Little Prickly Carex.* Spikelets from 3

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to 5, roundish, rather distant; fruit ovate, much attenuated, spreading, striated, beak bifid, serrated.——*Stems* from six inches to a foot high. Perennial: flowers in May and June: grows in boggy places and marshes: common. *Eng. Bot.* 806. 1345.

21. **C. cur'ta.** Good. *White Carex.* Spikelets from 4 to 6, elliptical, approximate; fruit ovate, acute, tumid, faintly striated, beak short, emarginate, rough-edged.——*Stems* from six inches to a foot high. β *alpicola*, Wahl., differs in having the beak split to the base. Perennial: flowers in June: grows in bogs: not common. *Eng. Bot.* 1386, β. Ben Wyves, Ben Lawers, Lochnagar, Glas Miel. 1346.

22. **C. ova'lis.** Good. *Oval-spiked Carex.* Spikelets 4 to 6, oval, approximate; fruit ovate-acuminate, ribbed on both surfaces, bifid, with broad membranous margins serrulate above.——*Stems* six to eighteen inches high. Perennial: flowers in June: grows in marshy meadows and bogs: common. *Eng. Bot.* 306. 1347.

23. **C. lepori'na.** L. *Hare's-foot Carex.* Spikelets usually 3, roundish-ovate, contiguous; fruit elliptical, acuminate, many-nerved on both surfaces, nearly entire at the point.——*Stems* from 4 to 8 inches high. Perennial: flowers in July and August: grows on high mountains. Lochnagar, Cairntoul, Brræriach. *Eng. Bot. Suppl.* 2815. 1348.

III. *Terminal spike androgynous, with sterile flowers at the base; the rest fertile. Stigmas* 3.

24. **C. Vah'lii.** Schk. *Close-headed Alpine Carex.* Spikes 3 or 4, roundish or oblong, aggregated; fruit obovate, rough above with minute prickles, with a short bifid beak, longer than the ovate, obtuse glumes.——*Stem* from six inches to a foot high, triangular. Perennial: flowers in July and August: grows on high mountains. Glen Callater, Glenphee. *Eng. Bot. Suppl.* 2666. 1349.

25. **C. canes'cens.** L. *Hoary Carex.* Spikes 3 or 4, sessile, except the lowest, which is shortly stalked; fruit oval, obtuse, nerved, bidentate, rough on the edges, shorter than the glumes.——*Stems* from one to two feet high, erect. Perennial: flowers in July. On a small island in Lough Neagh. *C. Buxbaumii*, Wahl. *Eng. Bot. Suppl.* 2885. 1350.

26. **C. atra'ta.** L. *Black Carex.* Spikes 3 or 4, shortly stalked; fruit elliptical, with a short, bifid beak; lower bract foliaceous.——*Stems* from one to two feet high. Perennial: flowers in June and July: grows on the higher mountains in Scotland. *Eng. Bot.* 2044. 1351.

IV. *Terminal spikes barren,* 1 *or more; the rest fertile.*
* *Stigmas* 2.

27. **C. Goodeno'vii.** Gay. *Common Carex.* Spikes cylindrical, erect, barren 1 or 2, fertile from 2 to 4; fruit elliptical, nerved, with a short, abrupt, entire beak; sheaths none; bracts with short auricles, foliaceous.——*Stems* from 6 inches to a foot high, triangular, rough above. Perennial: flowers in May and June: grows in marshy places: common. *C. cæspitosa*, Sm. *C. vulgaris*, Fries. *Eng. Bot.* 1507. 1352.

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28. C. ri'gida. Good. *Rigid Carex.* Spikes ovate, erect, barren 1, fertile from 2 to 4; fruit elliptical, nerveless, with a short abrupt entire beak; sheaths none.——*Stem* rigid, three inches to a foot high, triangular, rough above: root creeping. Perennial: flowers in June and July: grows on the summits of high mountains: common. *Eng. Bot.* 2047. 1353.

29. C. aqua'tilis. Wahl. *Straight-leaved Water Carex.* Spikes erect, cylindrical; barren from 1 to 3, fertile 3 or 4, elongated, attenuated below, usually with barren flowers at the end; fruit obovate, nerveless, with a short entire beak; sheaths none; bracts long, foliaceous.——*Stems* from six inches to four feet high. Perennial: flowers in July and August: grows in boggy ground on the Clova mountains and in the valley by the bridge at Clova. *Eng. Bot. Suppl.* 2758. 1354.

30. C. acu'ta. L. *Slender-spiked Carex.* Spikes cylindrical, slender, barren from 1 to 3, fertile 3 or 4, with barren flowers at the end; fruit elliptical, nerved, with a short entire beak; sheaths none; bracts long, foliaceous.——*Stems* two or three feet high. Perennial: flowers in May and June: grows in wet pastures, and by pools and rivers: common. *Eng. Bot.* 580. 1355.

31. C. Gibso'ni. Bab. Spikes erect, barren 1, fertile from 2 to 4, oblong, narrowed downwards; fruit lanceolate, acute, with many nerves not reaching the summit and a short entire beak.——*Stems* from six to eight inches high. Perennial: flowers in June. Hebden Bridge, Yorkshire, Mr. S. Gibson. 1356.

32. C. stric'ta. Good. *Glaucous straight-leaved Carex.* Spikes cylindrical, nearly sessile, barren 1 or 2, fertile 3 or 4, the uppermost often barren at the end; fruit elliptical or oblong, acute, nerved, compressed, with a short usually entire beak; sheaths of leaves connected by filamentous network.——*Stems* two or three feet high, triangular. Perennial: flowers in May and June: grows in marshy places: not uncommon. *Eng. Bot.* 914. 1357.

33. C. saxa'tilis. L. *Russet Carex.* Barren spikes 1 or rarely 2, fertile 2 or 3, ovate, shortly stalked; fruit ovate, inflated, with a very short, bifid head; sheaths none; bracts foliaceous.——*Stems* from six inches to a foot high. Perennial: flowers in June: grows on the higher mountains of Scotland: rare. *Eng. Bot.* 2045. β *Grahami*, Boott., distinguished by having the nerves on the fruit more prominent and conspicuous, has been found in Glenphee and on Ben Cruban. 1358.

** *Stigmas* 3.

† *Fruit glabrous.*

‡ *Fertile spikes short, subsessile.*

34. C. fla'va. L. *Yellow Carex.* Fertile spikes roundish-oval; fruit ovate, inflated, ribbed, with a long, more or less curved, bifid beak; sheaths short; bracts long, foliaceous.——*Stems* six inches to a foot high. β *Œderi*, Ehrh., differs in having the beak short and straight. Perennial: flowers in May and June: grows in bogs and wet meadows: common. *Eng. Bot.* 1294. 1359.

35. C. exten'sa. Good. *Long Bracteated Carex.* Fertile spikes oblong, aggregated; fruit ovate, ribbed, with a short, straight, acu-

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minate, bifid beak; bracts very long, foliaceous, with very short sheaths.——*Stems* about a foot high. Perennial: flowers in June: grows in marshes near the sea; rare. *Eng. Bot.* 833. 1360.

‡‡ *Fertile spikes stalked, erect.*

36. C. ful'va. Good. *Tawny Carex.* Fertile spikes ovate, erect, distant; fruit ovate, nerved, with a slender, straight, rough-edged, bifid beak; bracts foliaceous with very long sheaths.——*Stems* a foot high, acutely triangular, rough-edged. β *Speirostachya*, Sw., has the fertile spikes on longer stalks, the fruit more inflated and more strongly ribbed. *Eng. Bot. Suppl.* 2770. Perennial: flowers in June and July: grows in boggy places. *Eng. Bot.* 1295. 1361.

37. C. palles'cens. L. *Pale Carex.* Fertile spikes cylindrical, stalked, approximate, slightly drooping; fruit obovate, striated, inflated, smooth, obtuse; bracts foliaceous, with very short sheaths. ——*Stems* from one to two feet high. Perennial: flowers in June: grows in marshy places and by rivers: frequent. *Eng. Bot.* 2185. 1362.

38. C. puncta'ta. Good. *Dotted-fruited Carex.* Barren spikes 1, rarely 2, fertile 3 or 4, cylindrical, erect, barren at the end; fruit ovate, tumid, obsoletely nerved, pellucidly punctate, of a light green colour, beak linear, bidentate.——*Stems* twelve or eighteen inches high. Perennial: flowers in June. Banks of the Menai near Bangor, and in Guernsey. 1363.

39. C. dis'tans. L. *Loose Carex.* Barren spikes 1 or 2, fertile 2 or 3, cylindrical, erect, distant; fruit ovate, equally ribbed, pellucidly punctate, smooth, with a slender, rough, bifid beak; bracts foliaceous, with elongated sheaths.——*Stems* from twelve to eighteen inches high. Perennial: flowers in June: grows in marshes near the sea, in many places. *Eng. Bot.* 1234. 1364.

40. C. biner'vis. Sm. *Green-ribbed Carex.* Barren spikes 1 or 2, fertile from 3 to 5, cylindrical, erect, distant; fruit ovate, with 2 principal green submarginal nerves on the outer surface, and a broad, rough, bifid beak; bracts foliaceous, with elongated sheaths.——*Stems* from one to three feet high. Perennial: flowers in June: grows on dry heaths: frequent. *Eng. Bot.* 1235. 1365.

41. C. læviga'ta. Sm. *Smooth-stalked Beaked Carex.* Barren spike solitary, fertile 3 or 4, cylindrical, drooping, often barren at the end; fruit ovate, nerved, with a long, deeply bifid, smooth beak; bracts foliaceous, with elongated sheaths.——*Stems* from two to three feet high. Perennial: flowers in June: grows in marshy and woody places and by rivers: rather rare. *Eng. Bot.* 1387. 1366.

42. C. panice'a. L. *Pink-leaved Carex.* Fertile spikes from 1 to 3, distant; fruit subglobose, inflated, obtuse, with a short, truncated beak; bracts foliaceous, with long sheaths.——*Stems* about a foot high. Perennial: flowers in June: grows in bogs and marshes: common. *Eng. Bot.* 1505. 1367.

43. C. vagina'ta. Tausch. *Short Brown-spiked Carex.* Fertile spikes from 1 to 3, distant; fruit ovate, triquetrous, smooth, with a short, smooth, obliquely truncated, bifid beak; bracts sheathing.——*Stems* about a foot high. Perennial: flowers in July: grows in rocky and dry gravelly places on many of the higher mountains of Scotland. *Eng. Bot. Suppl.* 2731. 1368.

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44. **C. depaupera'ta.** Good. *Starved Wood Carex.* Fertile spikes erect, distant, with from 3 to 6 flowers; fruit large, nearly globular, with a long, slender, rough, bifid beak.——*Stems* from one to two feet high. Perennial: flowers in May and June: grows in dry woods: rare. *Eng. Bot.* 1098. 1369.

‡‡‡ *Fertile spikes stalked, drooping.*

§ *Fertile spikes short.*

45. **C. capilla'ris.** L. *Dwarf Capillary Carex.* Common sheath half the length of the drooping, capillary flower-stalks; fertile spikes ovate, lax, pendulous; fruit oblong, tumid, acuminate, terminating in a slender, membranous beak.——*Stems* from two to eight inches high, slender. Perennial: flowers in July: grows on the higher mountains of Scotland. *Eng. Bot.* 2069. 1370.

46. **C. limo'sa.** L. *Mud Carex.* Fertile spikes 1 or 2, ovate, dense, upon long stalks; fruit broadly elliptical, tumid, ribbed, with a very short, entire beak; sheaths scarcely any.——*Stems* from eight to twelve inches high. *β irrigua*, Sm., has the leaves broader and the glumes longer than the fruit. Perennial: flowers in July: grows in bogs and marshes: not common. *Eng. Bot.* 2043. 1371.

47. **C. rariflo'ra.** Sm. *Loose-flowered Alpine Carex.* Fertile spikes 2 or 3, upon long stalks, lax, drooping, few-flowered; fruit oblong, attenuated at both ends, with 3 blunt angles, striate, and with a very short entire beak; bracts with very short sheaths.——*Stems* about six inches high. Perennial: flowers in July; grows in boggy places on high mountains in Scotland: rare. *Eng. Bot.* 2516. 1372.

48. **C. ustula'ta.** Willd. *Scorched Alpine Carex.* Fertile spikes 2 or 3, ovate, dense, on short stalks; fruit elliptical, compressed, rough-edged, with a bifid beak.——*Stems* three or four inches high. Perennial: flowers in July. Ben Lawers, very rare, Mr. George Don. *Eng. Bot.* 2404. 1373.

§§ *Fertile spikes elongated.*

49. **C. strigo'sa.** Huds. *Loose Pendulous Carex.* Fertile spikes long, slender, lax; fruit oblong-lanceolate, triangular, nerved, slightly recurved, with an obliquely truncated mouth, loosely imbricated: sheaths as long as the flower-stalks.——*Stems* from one to two feet high. Perennial: flowers in May and June: grows in woods and thickets: rare. *Eng. Bot.* 994. 1374.

50. **C. sylva'tica.** Huds. *Pendulous Wood Carex.* Fertile spikes slender, rather lax; fruit ovate, obscurely nerved, narrowed into a long bifid beak; sheaths half as long as the flower-stalks.——*Stems* from one to two feet high. Perennial: flowers in May and June: grows in woods: common. *Eng. Bot.* 995. 1375.

51. **C. pen'dula.** Huds. *Great Pendulous Carex.* Fertile spikes cylindrical, very long; fruit closely imbricated, ovate, tumid, with a bifid beak; sheaths nearly as long as the flower-stalks.——*Stems* from three to six feet high. Perennial: flowers in May and June: grows in moist shady places: not common. *Eng. Bot.* 2315. 1376.

52. **C. Pseudo-Cype'rus.** L. *Cyperus-like Carex.* Fertile spikes dense, cylindrical, many-flowered; fruit lanceolate, ribbed, much attenuated, with a long, deeply cloven beak; sheaths scarcely any.

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——*Stems* from two to three feet high. Perennial: flowers in June: grows in marshy places, and by rivers and lakes: not common. *Eng. Bot.* 2042. 1377.

53. **C. glau'ca.** Scop. *Glaucous Heath Carex.* Fertile spikes cylindrical, drooping, on very long recurved stalks; fruit obovate-globose, densely imbricated, obtuse, slightly downy, with a small entire point; bracts foliaceous.——*Stems* about a foot high. Perennial: flowers in May and June: grows in moist meadows and heaths: common. *C. recurva,* Huds. *Eng. Bot.* 1506. 1378.

†† *Fruit downy or hairy.*

‡ *Fertile spikes sessile.*

54. **C. præ'cox.** Jacq. *Early Carex.* Fertile spikes elliptical, approximate; fruit obovate, downy, with an abrupt entire point; sheaths very short.——*Stems* from three inches to a foot high: root creeping. Perennial: flowers in April and May: grows in dry pastures and heaths: common. *Eng. Bot.* 1099. 1379.

55. **C. colli'na.** Willd. L. Fertile spikes ovate, approximate; fruit narrowed below, oblong-obovate, with a short, notched beak: sheaths short.——*Stem* about six inches high: root fibrous. Perennial: flowers in June and July. Near Tunbridge Wells; Mr. W. Mitten. 1380.

56. **C. piluli'fera.** L. *Round-headed Carex.* Fertile spikes nearly globular, crowded; fruit roundish, downy, with a short, bifid beak; sheaths none.——*Stems* from six inches to a foot high: root fibrous. Perennial: flowers in May and June: grows in wet heaths: common. *Eng. Bot.* 885. 1381.

‡‡ *Fertile spikes stalked.*

57. **C. tomento'sa.** L. *Larger Downy-fruited Carex.* Fertile spikes 1 or 2, nearly sessile, cylindrical; fruit globose, densely downy, with a short, slightly bifid beak; sheaths scarcely any.——*About* a foot high. Perennial: flowers in June; near Merston Measy, Wiltshire. *Eng. Bot.* 2046. 1382.

58. **C. hu'milis.** Leyss. *Dwarf Silvery Carex.* Fertile spikes distant, few-flowered, inclosed in the sheathing bracts; fruit obovate, slightly downy, narrowed below, with an entire oblique mouth.——*Stems* from one to three inches high. Perennial: flowers in May: Limestone hills in Wilts and Somerset. *C. clandestina,* Good. *Eng. Bot.* 2124. 1383.

59. **C. digita'ta.** L. *Fingered Carex.* Spikes linear, lax, erect, the barren one shortest; fruit obovate, triquetrous, downy, with a short, nearly entire beak; bracts sheathing.——*Stems* from six to ten inches high. Perennial: flowers in May: grows in woods and thickets in England: rare. *Eng. Bot.* 615. 1384.

V. *Terminal spikes barren, 2 or more; the rest fertile. Stigmas* 3.

* *Fruit downy.*

60. **C. filifor'mis.** L. *Slender-leaved Carex.* Fertile spikes ovate, shortly stalked; fruit ovate, with a deeply cleft beak; sheaths scarcely any.——*Stem* erect, about two feet high. Perennial: flowers in May: grows in wet meadows and bogs: rare. *Eng. Bot.* 904. 1385.

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61. C. hir'ta. L. *Hairy Carex.* Hairy; fertile spikes short, cylindrical, distant; fruit ovate, with a long deeply cleft beak; sheaths elongated, nearly as long as the flower-stalks.——*Stems* from one to three feet high. Perennial: flowers in May and June: grows in wet pastures and woods: common. *Eng. Bot.* 685. 1386.

** *Fruit glabrous.*

62. C. hordeifor'mis. Wahl. *Barley Carex.* Fertile spikes 2 or 3, oblong, the upper ones approximate; fruit large, ovate, winged, plano-convex, scabrous, with a long, bifid beak, nearly twice as long as the glumes; bracts long, foliaceous.——*About* a foot high. Perennial: flowers in June. Small valley about three miles west from Panmure, Forfar. Mr. G. Don. 1387.

63. C. ampulla'cea. Good. *Small-fruited Bladder Carex.* Fertile spikes cylindrical, elongated, nearly erect; fruit crowded, subglobose, inflated, with a slender, slightly bifid beak; sheaths none.——*Stems* from one to two feet high. Perennial: flowers in June: grows in bogs and marshes: common. *Eng. Bot.* 780. 1388.

64. C. vesica'ria. L. *Large-fruited Bladder Carex.* Fertile spikes cylindrical, slightly drooping; fruit very large, ovate, inflated, with a long, slender, bifid beak.——*Stems* from one to two feet high. Perennial: flowers in May: grows in marshes and wet meadows: frequent. *Eng. Bot.* 779. 1389.

65. C. paludo'sa. Good. *Lesser Common Carex.* Fertile spikes cylindrical, erect, obtuse; fruit oblong-ovate, striated, with a bifid beak; glumes on the barren spikes obtuse.——*Stems* from two to three feet high. Perennial: flowers in May: grows in marshes, and about the edges of ditches, pools, and rivers: common. *Eng. Bot.* 807. 1390.

66. C. ripa'ria. Curt. *Great Common Carex.* Fertile spikes cylindrical, erect, acute; fruit oblong-ovate, tumid, striated, with a short, broad, bifid beak; glumes on the barren spikes acute.——*Stems* about three feet high. Perennial: flowers in May: grows at the edges of pools, ditches, and slow rivers: common. *Eng. Bot.* 579. 1391.

8. KOBRE'SIA. Willd. KOBRESIA.

Flowers imperfect, in spikelets included in a broad, sheathing bract, and forming a compound spike.

Barren Flower. Stamens 3; filaments capillary, erect, longer than the convolute glume; anthers linear, erect.

Fertile Flower. A convolute, oblong, sheathing glume. Germen oblong or trigonal; style short; stigmas 3, spreading, downy. Achene trigonal, obtuse, surrounded by the convolute glume.—Named after M. de *Kobres.* 473.

1. K. carici'na. Willd. *Compound-headed Kobresia.* Spikelets crowded, alternate.——*Roots* fibrous: stems sheathed at the base with the old leaves, erect, striate, from three to five inches high, rough-edged at the top: leaves radical, linear, acute, channelled, rough-edged: spikelets 4 or 5, alternate, brown, crowded in an ovate, erect spike. Perennial: flowers in August: grows in muddy

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places on mountains in the north of England: rare. *Schœnus monoicus*, Sm. *Eng. Bot.* vol. xx. pl. 1410. *Eng. Fl.* vol. iv. p. 129. 1392.

TETRANDRIA.

9. LITTORELLA. Linn. SHORE-WEED.

Barren Flowers. Calyx of 4 ovate, acute, erect leaves. Corolla tubular, with the limb deeply divided into 4 equal, ovate, acute segments. Filaments capillary, very long; anthers cordate, 2-celled.

Fertile Flowers. Calyx none. Corolla membranous, permanent, deeply divided into 4 unequal, acute segments. Germen superior, oblong, very small. Style filiform, very long, erect; stigma simple, acute. Nut oval, 1-celled, not opening. Seed solitary.—Named from *littus*, the shore. 474.

1. **L. lacustris.** L. *Plantain Shore-weed.*——*Root* fibrous: stem none: leaves linear, fleshy, semi-cylindrical, two or three inches long. Perennial: flowers in June: grows about the edges of lakes and pools: frequent. *Eng. Bot.* vol. vii. pl. 468. *Eng. Fl.* vol. iv. p. 130. 1393.

10. ALNUS. Linn. ALDER.

Barren Flowers numerous, in a loose cylindrical catkin, imbricated all round. Scales 3-flowered, with 2 very minute lateral scales. Three equal florets, attached to the inner side of each scale, each with a perianth, deeply divided into 4 equal, ovate, obtuse segments. Filaments 4, arising from the tube of the corolla, shorter than its segments; anthers roundish, 2-lobed.

Fertile Flowers fewer, in an oval catkin, imbricated all round. Scales cuneiform, 2-flowered. Perianth none. Germen compressed, 2-celled. Styles 2, parallel, bristle-shaped, deciduous; stigma simple. Nut ovate, hard, compressed, angular, 2-celled. Kernel solitary, ovate, acute.—Name, Celtic, from *al*, near, and *lan*, a river bank. 475.

1. **A. glutinosa.** L. *Common Alder.* Leaves roundish-cuneate, waved, serrate, glutinous, downy at the branching of the veins beneath.——*A low* tree, with rugged bark, and crooked, spreading, smooth branches: barren catkins long, pendulous; fertile ones short, oval. The wood is hard and brittle, of a reddish colour, and lasts long under water. The bark dyes red, and with copperas, black. Flowers in March: grows in wet places, by the sides of rivers: common. *Eng. Bot.* vol. xxi. pl. 1508: *Betula Alnus.* *Eng. Fl.* vol. iv. p. 132. 1394.

11. BUXUS. Linn. BOX-TREE.

Barren Flowers. Calyx of 2 roundish, concave, spreading

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leaves, with a bract at its base. Petals 2, roundish, concave, spreading. Filaments 4, subulate, spreading, about the length of the petals; anthers 2-lobed. A rudiment of a germen.

Fertile Flowers from the same bud. Calyx inferior, of 2 roundish, concave, spreading, permanent leaves, with 3 bracts at its base. Petals 3, roundish, larger than the calyx. Germen nearly globular, with 3 obtuse angles or lobes. Styles 3, short, thick, permanent; stigma obtuse, rough. Capsule globular, with 3 spreading beaks, 3-celled, 3-valved. Seeds 2 in each cell, oblong.—Name from πυξος, of the Greeks. 476.

1. B. sempervi'rens. L. *Common Box-tree.* Leaves ovate, convex. ——*A small* tree with shining leaves and pale-yellow flowers. Its hard, close, yellowish wood is extensively employed in making mathematical instruments, and for wood engraving. Kept by cultivation in a dwarf state, it forms excellent edgings in gardens. Flowers in April: grows on dry hills in the south of England. *Eng. Bot.* vol. xix. pl. 1341. *Eng. Fl.* vol. iv. p. 133. 1395.

12. URTICA. Linn. NETTLE.

Barren Flower. Perianth of 4, roundish, concave, equal leaves. Nectary central, cup-shaped. Filaments 4, subulate, spreading, as long as the calyx; anthers roundish, 2-lobed.

Fertile Flower. Perianth inferior, of 2 roundish, equal leaves. Germen ovate; style none; stigma downy. Achene ovate, somewhat compressed, polished, embraced by the permanent perianth.—Name from *uro*, to burn. 477.

1. U. Dodar'tii. L. *Dodart's Nettle.* Leaves opposite, ovato-lanceolate, nearly entire; fertile flowers, in globular heads, stalked; fruit nearly smooth.——*Stems* erect, cylindrical, hollow, two to three feet high: stipules small, narrowly lanceolate: achenes smooth and shining, brown, with numerous dark-purple dots. Perennial: flowers in June and July: grows in waste ground in several parts of England, but rare. First distinguished as British by Mr. Babington, in *Annals of Natural History*, vol. i. p. 197. *U. pilulifera*, var. Hooker and Arn. 373. 1396.

2. U. pilili'fera. L. *Roman Nettle.* Leaves opposite, broadly ovate or cordate, coarsely toothed; fertile flowers in stalked, globular heads; seeds with rough tubercles on their surface.——*Stems* erect, bluntly four-cornered: leaves larger than in the preceding, and on longer and thicker stalks: stipules between oblong and ovate, broader than in the preceding: achene dark-brown, with numerous darker prominent points. Perennial: flowers in June and July: grows in waste ground, chiefly near the sea: rare. Norfolk and Suffolk. *Eng. Bot.* pl. 148. *Eng. Fl.* vol. iv. p. 134. 1397.

3. U. u'rens. L. *Small Nettle.* Leaves opposite, broadly elliptical, with about 5 longitudinal ribs; clusters nearly simple.——*From* one to two feet high, bright-green, with venomous stings. Annual: flowers from June to October: grows in cultivated ground and waste places. *Eng. Bot.* vol. xviii. pl. 1236. *Eng. Fl.* vol. iv. p. 134. 1398.

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4. **U. dio'ica.** L. *Great Nettle.* Leaves opposite, cordate; clusters much branched, in pairs, mostly diœcious.——*From* two to four feet high, dull-green, with venomous stings. The fibres of the stem may be used like hemp. The young leaves boiled into soup, are not unpleasant, and were formerly much used in Scotland. Perennial: flowers in July and August: grows in waste places and by road-sides: common. *Eng. Bot.* vol. xxv. pl. 1750. *Eng. Fl.* vol. iv. p. 135. 1399.

13. ERIOCAU'LON. Linn. PIPEWORT.

Flowers arranged in a compact scaly head.

Barren Flowers in the middle. Perianth with a cylindrical tube, the limb divided into 4 or 6 segments, in a double row. Filaments 4 or 6, filiform, erect; anthers roundish, 2-celled.

Fertile Flowers in the circumference. Perianth of 4 or 6 petals, in a double row. Germen superior, 2- or 3-lobed; style 1, very short; stigmas 2 or 3, subulate. Capsule 2- or 3-lobed, with as many cells and valves. Seeds solitary, globular.—Name from ἔριον, wool, and καυλος, a stem. 478.

1. **E. septangula're.** L. *Jointed Pipewort.* Stem 7-cornered, much longer than the compressed, cellular, taper-pointed leaves; outer scales without flowers, smooth, the inner scales and perianth fringed at the extremity.——*Roots* of very numerous long, white, jointed fibres: leaves forming a tuft, two or three inches long: stalks slender, from six to ten inches long, with a solitary, globular white head. Perennial: flowers in September: grows in several lakes in the islands of Skye and Coll, and in Cunnamara, Ireland. *Eng. Bot.* vol. xi. pl. 733. *Eng. Fl.* vol. iv. p. 140. 1400.

PENTANDRIA.

14. XAN'THIUM. Linn. BUR-WEED.

Barren Flower compound. Involucre of many imbricated, equal scales. Florets of 1 petal, funnel-shaped, with 5 equal, marginal segments. Filaments 5 in each floret, parallel, forming a cylinder; anthers erect, parallel, not united. Common receptacle scarcely any, the florets being separated by scales.

Fertile Flowers beneath the others. Involucre 2-flowered, formed of 2 opposite, acutely 3 lobed leaves, covered with hooked prickles, and united to the germen. Perianth none. Germen oval; styles 2, capillary; stigmas simple. Drupe formed of the permanent prickly involucre. Nut 2-celled. Seeds solitary. Name from ξανθος, yellow. 479.

1. **X. struma'rium.** L. *Broad-leaved Bur-weed.* Stem unarmed; leaves cordate, 3-ribbed at the base.——*Stem* two feet high, erect, branched, furrowed, leafy: leaves stalked, lobed, and doubly serrate. Annual: flowers in August and September: grows in dunghills and in rich ground in the south of England, and in Kerry, Ireland: rare, and not indigenous. *Eng. Bot.* vol. xxxvi. pl. 2544. *Eng. Fl.* vol. iv. p. 136. 1401.

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15. AMARAN'THUS. Linn. AMARANTH.

Barren Flowers. Perianth of 3 or 5 erect, lanceolate, coloured leaves. Filaments 3 or 5, capillary, erect, as long as the calyx; anthers oblong, 2-lobed.

Fertile Flowers in the same cluster. Perianth of 3 or 5 erect, lanceolate, coloured leaves. Germen superior, ovate; styles 3, sometimes 2; stigma acute, downy on the upper side. Capsule ovate, 1-celled. Seed solitary, globular, filling the capsule.—Name from α, not, and μαραινω, to fade. 480.

1. **A. Bli'tum.** L. *Wild Amaranth.* Flowers 3-cleft, with 3 stamens; leaves ovate; stem spreading.——*Stems* branched, round, furrowed, leafy: leaves roughish on the edges: flowers green, in small axillar, leafy clusters. Annual: flowers in August: grows on dunghills and in rich ground in the south of England, the outcast of gardens. *Eng. Bot.* vol. xxxi. pl. 2212. *Eng. Fl.* vol. iv. p. 137. 1402.

16. BRYO'NIA. Linn. BRYONY.

Barren Flowers. Calyx of 1 leaf, campanulate, with 5 acute teeth. Corolla campanulate, with 5 ovate spreading segments. Filaments 3, short; anthers 5; 2 together on 2 of the filaments.

Fertile Flowers. Calyx and corolla as in the barren flower. Germen inferior. Style 3-cleft, shorter than the corolla; stigmas cleft, spreading. Berry roundish, smooth, with 2 or more cells. Seeds in pairs, roundish.—Named from βουω, to shoot, or grow rapidly. 481.

1. **B. dio'ica.** L. *Red-berried Bryony.* Leaves palmate, rough on both sides; barren flowers and fertile flowers on separate plants. ——*Stems* several feet long, climbing by their tendrils: leaves large, 5-lobed: flowers white, veined with green; in axillar panicles: berries scarlet. The root is acrid and purgative. Perennial: flowers from May to September: grows in hedges and thickets, in England: frequent. *Eng. Bot.* vol. vii. pl. 439. *Eng. Fl.* vol. iv. p. 138. 1403.

POLYANDRIA.

17. CERATOPHYL'LUM. Linn. HORNWORT.

Barren Flowers. Perianth deeply divided into many oblong, equal, erect, permanent segments. Filaments twice as many as the segments of the perianth, from 16 to 20, very short; anthers from 12 to 20, oblong, erect, 2-celled.

Fertile Flowers. Perianth as in the barren flowers. Germen superior, ovate, compressed; style none; stigma oblong. Drupe ovate, compressed, crowned with the permanent stigma. Nut large, of the shape of the drupe. Name from κερας, a horn, and φυλλον, a leaf. 482.

1. **C. demer'sum.** L. *Common Hornwort.* Fruit armed with 2

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spines near the base; segments of the perianth notched at the end. ——*Two* or three feet long, dark-green, with numerous whorled leaves, repeatedly divided into linear segments. Perennial: flowers in August and September: grows under water, in ditches, lakes, and slow rivers: frequent. *Eng. Bot.* vol. xiv. pl. 947. *Eng. Fl.* vol. iv. p. 141. 1404.

2. C. submer'sum. L. *Unarmed Hornwort.* Fruit without spines; segments of the perianth acute, entire.——*Resembles* the former. Perennial: flowers in September: grows in ditches in the east and south of England: rare. *Eng. Bot.* vol. x. pl. 679. *Eng. Fl.* vol. iv. p. 142. 1405.

18. MYRIOPHYL'LUM. Linn. WATER-MILFOIL.

Barren Flowers. Calyx of 4 oblong, erect leaves, the outer largest. Petals 4, obovate. Filaments 8, capillary, longer than the calyx; anthers oblong.

Fertile Flowers beneath the others. Calyx and corolla as in the barren flowers. Germens 4, inferior, oblong; styles none; stigmas downy. Drupes 4, oblong. Nuts solitary, with a hard shell, containing a single kernel.—Name from μυριος, a myriad, and φυλλον, a leaf. 483.

1. M. spica'tum. L. *Spiked Water-milfoil.* Flowers in whorled, interrupted, leafless spikes.——*Stem* slender, branched, round, several feet long, with finely pinnatifid, spreading leaves, 4 together in a whorl; petals reddish. Perennial: flowers in July and August: grows under water, in ditches, pools, lakes, and rivers: frequent. *Eng. Bot.* vol. ii. pl. 83. *Eng. Fl.* vol. iv. p. 143. 1406.

2. M. verticilla'tum. L. *Whorled Water-milfoil.* Flowers in whorled leafless spikes, with pinnatifid or pectinate bracts, longer than the flowers.——*Stem* several feet high, the flowering part of the stem or branches rising above the water: petals small, white. Perennial: flowers in July: grows in ditches and ponds in England and Wales: not common. *Eng. Bot.* vol. iv. pl. 218. *Eng. Fl.* vol. iv. p. 143. 1407.

3. M. alternifo'lium. De C. *Alternate-flowered Water-milfoil.* Barren flowers mostly alternate, on an erect leafless spike; fertile flowers in the axils of pectinated leaves at the base of the spike.——*Perennial:* flowers in summer: grows in ponds and ditches. *Eng. Bot. Suppl.* pl. 2854. 1408.

19. SAGITTA'RIA. Linn. ARROW-HEAD.

Barren Flowers numerous. Calyx of 3 ovate, permanent leaves. Corolla of 3 roundish, spreading, deciduous petals, thrice the size of the calyx. Filaments numerous, about 24, subulate, collected into a round head; anthers cordate, much shorter than the petals.

Fertile Flowers fewer, below the others. Calyx and corolla as above. Germens numerous, collected into a head, compressed, bulging externally, tapering into very short styles; stigmas

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acute, permanent. Fruits numerous, obovate, compressed, margined.—Named from *sagitta*, an arrow. 484.

1. S. sagittifo'lia. L. *Common Arrow-head.* Leaves sagittate, acute.——*Leaves* all from the root, on long cellular stalks: flowers white, 3 in a whorl. Perennial: flowers in July: grows in ditches and at the edges of pools and rivers in England and Ireland: frequent. *Eng. Bot.* vol. ii. pl. 84. *Eng. Fl.* vol. iv. p. 144. 1409.

20. A'RUM. Linn. ARUM.

Spathe an erect oblong leaf, convolute at the base, converging at the top, compressed in the middle, coloured within, containing the flowers arranged upon a spadix or common stalk, the latter terminating in a coloured, naked appendage. Corolla none.

Barren Flowers. Filaments numerous, very short, arranged in several close rows round the stalk, within the convoluted part of the calyx, surmounted at a little distance above by a ring of pointed, antherless filaments; anthers 2-lobed.

Fertile Flowers. Germens sessile, obovate, in a dense ring round the lower part of the stalk, at a small distance below the barren flowers; styles none; stigma downy. Berry globular, juicy, 1-celled. Seeds several, roundish.—Name of doubtful origin. 485.

1. A. macula'tum. L. *Cuckow-pint. Wake Robin.* Leaves sagittate, inclining to hastate, entire; common stalk of the flowers clavate, obtuse.——*Root* tuberous: leaves stalked, generally spotted with black: berries scarlet. The juice is very acrid, but the root, when dried, affords a nutritious flour, fit for making bread. Perennial: flowers in May: grows in bushy places, hedges, and the borders of fields. *Eng. Bot.* vol. xix. pl. 1298. *Eng. Fl.* vol. iv. p. 146. 1410.

21. POTE'RIUM. Linn. SALAD-BURNET.

Barren Flowers. Calyx tubular, deeply divided into 4 ovate, spreading, permanent segments, and having 3 or 4 bracts at the base. Filaments numerous, from 30 to 50, capillary, much longer than the perianth; anthers roundish, 2-lobed.

Fertile Flowers above the others. Calyx with the tube short, closed at the mouth; limb with 4 deep, ovate, reflexed, permanent segments. Germens 1 or 2, oblong, 2-celled, crowned with a capillary, coloured style, much longer than the calyx. Stigma rayed, coloured. Achene invested by the dry tube of the calyx, 1- or 2-celled. Kernels oval, solitary.—Name from *poterium*, a drinking cup. 486.

1. P. Sanguisor'ba. L. *Common Salad-Burnet.* Thornless: stem somewhat angular; calyx of fruit reticularly rugulose, not pitted, the angles margined.——*Stems* from one to two feet high, smooth, branched: leaves pinnate, with an odd leaflet; heads of purple flowers, globose. Perennial: flowers in June and July: grows in dry

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pastures: frequent in England; not common in Scotland or Ireland. *Eng. Bot.* vol. xii. pl. 860. *Eng. Fl.* vol. iv. p. 147. 1411.

2. **P. murica'tum.** Spach. *Muricated Salad-Burnet.* Thornless; stem somewhat angular; calyx of fruit wrinkled with pits having muricated margins; the angles crested.——*Very* similar to *P. Sanguisorba,* and until recently not specifically distinguished from it. Perennial: flowers in July: Cambridge, Essex, and Warwickshire. Hooker and Arnott, *Brit. Fl.* 127. 1412.

22. QUER'CUS. Linn. OAK.

Barren Flowers in a loose catkin, deciduous. Perianth deeply divided into several segments. Filaments 8 or more, subulate, short; anthers roundish, 2-lobed.

Fertile Flowers in separate catkins. Involucre 1-flowered, entire, becoming enlarged and externally scaly or tuberculated. Perianth with 6 minute, downy segments, closely surrounding the base of the style. Germen globulose, 3-celled, with rudiments of 6 seeds. Nut solitary, oval, leathery, 1-celled. Kernel solitary, rarely 2.—Name doubtful. 487.

1. **Q. Ro'bur.** L. *Common Oak.* Leaves deciduous, oblong, dilated towards the end, sinuated and lobed, the sinuses rather acute, the lobes obtuse; fruit-stalks elongated.——*A* large tree, with round spreading branches: in the Highlands of Scotland, where it is abundant in an indigenous state, it seldom attains a large size. Flowers in April: grows in natural woods, in the cultivated parts of the country. *Eng. Bot.* vol. xix. pl. 1342. *Eng. Fl.* vol. iv. p. 273. 1413.

2. **Q. sessiliflo'ra.** L. *Sessile-fruited Oak.* Leaves deciduous, oblong, on elongated stalks, with opposite acute sinuses; fruit sessile.——*This* species is distinguished from the former by its more regularly sinuated leaves and sessile fruit; the wood is said to be much inferior, but this appears to be erroneous. Flowers in April; grows in woods. *Eng. Bot.* vol. xxvi. pl. 1845. *Eng. Fl.* vol. iv. p. 150. 1414.

23. FA'GUS. Linn. BEECH.

Barren Flowers in a roundish catkin. Perianth campanulate, divided into 5 or 6 segments. Filaments from 8 to 15, capillary, longer than the perianth; anthers roundish or oblong, 2-lobed.

Fertile Flowers stalked. Perianth urceolate, with 4, 5, or 6 deep segments, containing 2 or 3 flowers. Germens 2 or 3, ovate, compressed or angular, 3-celled, 2 of the cells becoming abortive; styles 3, short; stigmas filiform, undivided, permanent. Nuts in pairs, triquetrous, inclosed by the enlarged prickly involucre. Named from φαγω, to eat. 488.

1. **F. sylva'tica.** L. *Common Beech.* Leaves ovate, indistinctly serrate, smooth, ciliate.——*A* large tree, with smooth bark and spreading branches. The wood is used for a great variety of purposes. The nuts fatten hogs, and are eaten by squirrels, wood-pigeons, and other wild animals. Flowers in April and May: grows in woods: common. *Eng. Bot.* vol. xxvi. pl. 1846. 1415.

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24. CASTA'NEA. Tourn. CHESTNUT.

Barren Flowers in a very long cylindrical spike. Perianth divided into 6 segments. Filaments from 8 to 20, capillary; anthers 2-celled.

Fertile Flowers 1 to 3, within a 4-lobed involucre. Perianth urceolate, with 5 or 6 lobes, with rudimentary stamens. Germen 3- to 8-celled, each cell 2-seeded, but generally one only yielding mature seed; stigmas 3 to 8, filiform. Nuts 1 or 2, within the enlarged prickly involucre.—Name from *Castanea*, in Thessaly. 489.

1. C. vulga'ris. Lam. *Common Chestnut Tree.* Leaves lanceolate, acutely serrate, smooth beneath; prickles of the involucre compound and entangled; stigmas 6.——*A* large tree, with widely spreading branches. The wood is used for many purposes; the nuts are wholesome and agreeable. Flowers in May: grows in woods in the south of England: frequent. *Eng. Bot.* vol. xiii. pl. 886. *Eng. Fl.* vol. iv. p. 151. 1416.

25. BE'TULA. Linn. BIRCH.

Barren Flowers. Catkin cylindrical, loose, imbricated all round, with ternate, concave scales, the middle one largest, ovate. Perianth none. Filaments from 10 to 12, shorter than the scale; anthers roundish, 2-lobed.

Fertile Flowers. Catkin cylindrical, dense; scales peltate, dilated outwards, 3-lobed, 3-flowered. Perianth none. Germen compressed, bordered, 2-celled. Styles 2, subulate, downy; stigmas simple. Nut oblong, deciduous, winged, 1-celled. Kernel solitary.—Name from *betu*, or *beathe*, Celtic for birch. 490.

1. B. al'ba. L. *Common Birch.* Leaves ovato-deltoid, acute, unequally serrate, nearly smooth.——*A* rather tall tree, with a white outer bark, peeling transversely, the twigs very slender and more or less drooping. The wood is hard and white, and is used for many purposes, as for barrel-staves, rural implements, and charcoal. The sap in spring is sweet, and may be obtained in quantities sufficient to make a kind of wine. Flowers in April and May: grows abundantly in extensive natural woods in the Highlands of Scotland, as well as in other parts of the country. It presents several varieties, the most remarkable of which is the graceful *Weeping Birch*, taller, and with very slender pendulous twigs. *Eng. Bot.* vol. xxxi. pl. 2198. *Eng. Fl.* vol. iv. p. 153. 1417.

2. B. na'na. L. *Dwarf Birch.* Leaves round, crenate, reticulated with veins beneath.——*A* shrub rarely exceeding two feet in height. Grows on the sides of some of the higher Scottish mountains, as Ben Lawers and the Braemar mountains. *Eng. Bot.* vol. xxxiii. pl. 2326. *Eng. Fl.* vol. iv. p. 154. 1418.

26. CARPI'NUS. Linn. HORNBEAM.

Barren Flowers. Catkin cylindrical, loose, imbricated all round, with roundish, acute, fringed, single-flowered scales, accompanied by 3 smaller inner ones. Filaments 10 or more,

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capillary, much shorter than the scale; anthers roundish, 2-lobed.

Fertile Flowers in a lax catkin, with small deciduous scales. Involucre 2-flowered, of 2 distinct leaves or scales, at length foliaceous. Perianth urceolate, deeply divided into 3 erect, acute, permanent segments. Germen ovate; styles very short, permanent; stigmas 2, subulate, erect, deciduous. Nut ovate, angular, leathery, 1-celled. Kernel 1.—Name *car*, wood, and *pin*, a head, in Celtic. 491.

1. C. Be'tulus. L. *Common Hornbeam.* Bracts of the fruit flat, oblong, serrate, with 2 lateral lobes.——*A small* tree, with smooth light-gray bark: leaves cordate, doubly serrate, smooth. The wood is white and tough. Flowers in May: grows in woods and hedges: frequent. *Eng. Bot.* vol. xxix. pl. 2032. *Eng. Fl.* vol. iv. p. 156. 1419.

27. CORYLUS. Linn. HAZEL.

Barren Flowers. Catkins cylindrical, imbricated all round with scales, each inclosing a single flower, narrower at the base, broader at the end, with 3 deep ovate segments, the middle one largest and lying over the others. Filaments 8, very short, hanging from the inner side of the scale; anthers oblong, 2-celled, pendulous, shorter than the scale.

Fertile Flowers at a distance from the others, from scaly buds. Involucre of 2 or 3 coherent lacerated scales. Perianth minute, deciduous. Germen very small, ovate, with rudiments of 2 seeds; styles 2, very short; stigmas prominent, subulate, downy, deciduous. Nut subovate, hard, compressed, downy at the top, 1-celled, invested with the greatly enlarged involucre. Kernel solitary.—Named from κορυς, a cap, on account of the appearance of the fruit. 492.

1. C. Avella'na. L. *Common Hazel.* Stipules ovate, obtuse; leaves roundish, cordate, pointed; involucre shorter than the nut. ——*A small* bushy tree, with numerous branches, which are hairy when young: leaves deeply serrate, light-green, downy. The wood makes excellent charcoal for drawing, and is used for numerous economical purposes. The nuts are used as food, and are also eaten by squirrels, hogs, and other animals. Flowers in March and April: grows in woods and copses: common. *Eng. Bot.* vol. xi. pl. 723. *Eng. Fl.* vol. iv. p. 157. 1420.

MONADELPHIA.

28. PINUS. Linn. PINE.

Barren Flowers. Catkin deciduous, of numerous naked, spreading stamens, connected by a common stalk. Perianth none. Filaments very short; anthers erect, cuneiform, 2-celled, crowned with a jagged membranous crest.

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Fertile Flowers. Catkin ovate or roundish, of numerous, imbricated, close, stiff, permanent, 2-flowered scales. Perianth none. Germens 2; style 1 to each germen; stigmas simple. Cone ovate, hard, of numerous woody, permanent scales. Seeds 2 to each scale, oval, each crowned with a membranous wing.—Name from *pin* or *pen*, a mountain. 493.

1. **P. sylves'tris.** L. *Common Pine. Scotch Fir.* Leaves in pairs, stiff; cones ovato-conical, as long as the leaves.——*A tall* straight tree, with scaly, reddish-brown bark, or, when growing unhampered, with large spreading branches. The wood is of great value for numerous purposes. Resin and tar are obtained from it. The roots are used in some parts of Scotland for candles. Flowers in May: grows in the Highlands of Scotland in extensive forests, sometimes attaining a diameter of from three to five feet, but usually not more than two. Many of the old forests have been greatly injured or destroyed by the extravagance of spendthrift lairds and the necessities of their creditors; just as the Celtic clans, the only lawful inheritors of the land, have been by the same pernicious agency. *Eng. Bot.* vol. xxxv. pl. 2460. *Eng. Fl.* vol. iv. p. 275. 1421.

Class XXII. DIŒCIA.

Plants having Flowers furnished with Stamens only on one individual, and Flowers furnished with Pistils only on another individual, of the same species.

Order I. MONANDRIA. *One Stamen.*

(*Several species of Salix.*)

Order II. DIANDRIA. *Two Stamens.*

1. SA'LIX. *Flowers* in *catkins*, imbricated with entire scales.
   Barren flowers. Petals none. *Nectary* a gland at the base of the scales. *Stamens* from 1 to 5.
   Fertile flowers. Petals none. *Nectary* a gland. *Stigmas* 2. *Capsule* 1-celled, 2-valved, many-seeded. *Seeds* with a tuft of hairs.

Order III. TRIANDRIA. *Three Stamens.*

2. EMPE'TRUM. *Barren Flowers. Perianth* of 6 scales, the inner 3 spreading and petaloid. *Stamens* capillary, from 3 to 9.
   Fertile flowers. Perianth as in the barren flowers. *Stigmas* 9. *Berry* superior, 2-seeded.
3. RUS'CUS. *Barren Flowers. Perianth* of 6 leaves. *Filaments* united into a tube, bearing the stamens.
   Fertile flowers. Perianth of 6 leaves. *Style* 1. *Berry* superior, 3-celled. *Seeds* in pairs.

(*Valeriana dioica* and *some species of Salix.*)

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Order IV. TETRANDRIA. *Four Stamens.*

4. VIS'CUM. *Barren flower.* *Calyx* obsolete. *Corolla* of 1 petal, deeply divided into 4 segments. *Anthers* sessile on the segments of the corolla.
Fertile flower. *Calyx* a slight border. *Corolla* with 4 segments. *Style* none. *Berry* inferior. *Seed* solitary, compressed.
5. HIPPO'PHAE. *Barren flower.* *Perianth* of 2 roundish valves. *Anthers* linear.
Fertile flower. *Perianth* tubular, cleft. *Style* 1. *Berry* superior. *Seed* solitary, oblong.
6. MYRI'CA. *Barren flowers* in a catkin. *Stamens* 4 to 8.
Fertile flowers in a catkin. *Styles* 2. *Berry* superior. *Seed* solitary, globular.

(*Rhamnus catharticus.* *Euonymus europæus.* *Urtica dioica.*)

Order V. PENTANDRIA. *Five Stamens.*

7. HU'MULUS. *Barren flowers.* *Perianth* 5-leaved. *Anthers* with 2 terminal pores.
Fertile flowers in a catkin. *Perianth* an oblique, undivided scale. *Styles* 2. *Seed* 1.

(*Ribes alpina.* *Bryonia dioica.* *Salix pentandra.*)

Order VI. HEXANDRIA. *Six Stamens.*

8. TA'MUS. *Barren flower.* *Perianth* with 6 deep segments.
Fertile flower. *Perianth* with 6 deep segments. *Style* 3-cleft. *Berry* inferior. 3-celled. *Seeds* in pairs.

(*Rumex Acetosa* and *Acetosella.*)

Order VII. OCTANDRIA. *Eight Stamens.*

9. PO'PULUS. *Barren flowers* in imbricated *catkins*, with usually jagged scales. *Perianth* turbinate, oblique, undivided.
Fertile flowers. *Catkin* and *perianth* the same. *Stigmas* 4 or 8. *Capsule* superior, 1-celled, 2-valved. *Seeds* with a tuft of hairs.

Order VIII. ENNEANDRIA. *Nine Stamens.*

10. MERCURIA'LIS. *Barren flowers.* *Perianth* with 3 deep segments. *Stamens* from 9 to 12. *Anthers* of 2 globular lobes.
Fertile flowers. *Perianth* as above. *Styles* 2. *Capsule* 2-lobed, 2-celled. *Seeds* solitary.
11. HYDRO'CHARIS. *Barren flower.* *Spatha* 2-leaved, with 3 deep segments. *Petals* 3. *Stamens* 6 to 12.
Fertile flowers. *Spatha* of 1 leaf. *Perianth* 6-cleft. *Styles* 6. *Capsule* inferior, 6-celled. *Seeds* numerous.
12. ANA'CHARIS. *Spatha* tubular, bifid, 1-flowered.
Barren flower. *Perianth* 6-cleft. *Stamens* 9.
Fertile flower. *Perianth* 6-cleft, its tube filiform. *Sterile stamens* 3. *Style* filiform; stigmas 3. *Fruit* baccate, 1-celled, few-seeded.

(*Empetrum nigrum.*)

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Order IX. DECANDRIA. *Ten Stamens.*

(*Silene otites. Lychnis sylvestris* and *vespertina.*)

Order X. ICOSANDRIA. *Numerous Stamens, arising from the Calyx.*

(*Rubus Chamæmorus.*)

Order XI. POLYANDRIA. *Numerous Stamens, arising from the Receptacle.*

(*Stratiotes aloides. Populus alba, tremula* and *nigra.*)

Order XII. MONADELPHIA. *Filaments united into 1 set.*

13. JUNI'PERUS. *Barren Flowers* in minute catkins, with subpeltate scales, bearing 4 to 8 anther-cells.
Fertile flowers few, their scales finally pulpy and united into a *berry* with 3 seeds.

14. TAX'US. *Barren flowers* in oval catkins, with crowded, peltate scales, bearing 3 to 8 anther-cells. *Style* 1. *Anthers* peltate, with several lobes.
Fertile flowers. Calyx cup-shaped, entire. *Style* 1. *Seed* 1, inclosed in the enlarged, pulpy calyx.

(*Salix rubra* and *Croweana.*)

DIŒCIA.—DIANDRIA.

1. SA'LIX.* Linn. WILLOW.

Barren Flowers. Catkin oblong, imbricated all round, with oblong, spreading, 1-flowered scales. Perianth none. Nectary a small, oblong, compressed gland, at the base of the scale; sometimes double. Filaments generally 2, but varying from 1 to 5 or more, filiform, longer than the scale; anthers 2-lobed, *2- or 4-celled.

Fertile Flowers. Catkin oblong, imbricated all round, with oblong scales. Perianth none. Germen superior, ovate; style terminal, permanent; stigmas 2, notched or cleft, spreading. Capsule ovate, obtuse, or tapering, 1-celled, 2-valved. Seeds numerous, minute, oval, tufted with soft erect hairs.—Name *Seilach*, Celtic. 494.

* *Adult leaves serrate, smooth, or nearly so.*

1. S. trian'dra. L. *Long-leaved Triandrous Willow.* Leaves oblong, inclining to linear, serrate, smooth, rather unequally sloping at the base; stamens 3; germen stalked, ovate, smooth; stigmas

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* In this very difficult and extensive genus, the arrangement and generally the characters of Smith have been adopted.

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nearly sessile.——*An* erect tree, rising to the height of thirty feet. It is cultivated as an osier, for white basket-work, for which purpose it is one of the most valuable. Flowers in May and August: grows in wet woods and hedges: common. *Eng. Bot.* vol. xx. pl. 1485. *Eng. Fl.* vol. iv. p. 166. 1422.

2. S. Hoffmannia'na. *Short-leaved Triandrous Willow.* Leaves oblong, inclining to ovate, serrate, smooth, slightly rounded at the base; stamens 3; germen stalked, ovate, compressed, smooth; stigmas nearly sessile.——*From* twelve to fifteen feet high, considered a variety of the last. Flowers in May: grows on the banks of rivulets in Sussex and near Cambridge. *Eng. Fl.* vol. iv. p. 168. 1423.

3. S undula'ta. Ehrh. *Sharp-leaved Triandrous Willow.* Leaves lanceolate, serrate, smooth, tapering towards each end; leaf-stalks decurrent; stamens 3; germen stalked, ovate, smooth; style as long as the stigmas.——*Cultivated* for the coarser kinds of basket-work. Flowers in April and May: grows in low meadows and woods. *Eng. Bot.* vol. xx. pl. 1436. *S. lanceolata*, Sm. *Eng. Fl.* vol. iv. p. 168. 1424.

4. S. amygdali'na. L. *Almond-leaved Willow.* Leaves ovate, serrate, smooth, rounded and unequal at the base; stamens 3; germen ovate, compressed, smooth; its stalk almost as long as the scale; stigmas nearly sessile; young branches furrowed.——*A large* bushy shrub or small tree: cultivated for coarse basket-work. Flowers in April and May, and in August: grows on the banks of rivers and ditches. *Eng. Bot.* vol. xxvii. pl. 1636. *Eng. Fl.* vol. iv. p. 169. 1425.

5. S. pentan'dra. L. *Sweet Bay-leaved Willow.* Leaves ovate, pointed, crenate, glandular, smooth; leaf-stalks glandular at the top; stamens 5 or more, hairy at the base; germen ovate, tapering, smooth, nearly sessile.——*An* erect tree, fifteen or twenty feet high: leaves smooth on both sides, their edges discharging a yellow resin, from which emanates the fragrant bay-like scent, for which the plant is noted. Flowers in June and July: grows about rivers. *Eng. Bot.* vol. xxvi. pl. 1805. *Eng. Fl.* vol. iv. p. 171. 1426.

6. S. cuspida'ta. Schultz. *Cuspidate Willow.* Leaves oblongo-lanceolate, much acuminated; stipules semi-cordate, oblique; stamens 3 or 4; style short, stigmas emarginate; stalk of the ovary three or four times as long as the gland. Leighton.——*A tree*, from twenty to thirty feet high. Flowers in June: grows near Shrewsbury. Loudon's *Arboretum*, 1439. Bab. *Man.* 288. 1427.

7. S. ni'gricans. Sm. *Dark Broad-leaved Willow.* Leaves between lanceolate and elliptical, acute, crenate, smooth, with a downy rib above, glaucous beneath; stamens 2, thrice the length of the hairy scales; germen lanceolate, downy, on a short downy stalk.——*A large* bushy shrub. Flowers in April: grows in marshes, woods, and thickets in England: rare. *Eng. Bot.* vol. xvii. pl. 1213. *Eng. Fl.* vol. iv. p. 172. 1428.

8. S. ra'dicans. Sm. *Tea-leaved Willow.* Leaves between lanceolate and elliptical, with waved serratures, smooth, glaucous beneath; stipules glandular on the inside; germen lanceolate, stalked, silky; style twice as long as the stigmas; branches recumbent, rooting.——

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A low spreading bush. Flowers in May: grows at Finlarig in Breadalbane. *Eng. Bot.* vol. xxviii. pl. 1958. *S. phylicifolia. Eng. Fl.* vol. iv. p. 173. 1429.

9. **S. Borreria'na.** Sm. *Dark Upright Willow.* Leaves lanceolate, with shallow, even serratures, very smooth, glaucous beneath; stipules obsolete; branches erect; scales of the catkins acute, shaggy. ——*A bushy* shrub, eight or ten feet high, with dark-brown branches. Flowers in May: found by Mr. W. Borrer in Breadalbane and Glen Nevis. *Eng. Fl.* vol. iv. p. 174. 1430.

10. **S. ni'tens.** Anders. *Shining-leaved Willow.* Leaves elliptical, acute, unequally serrate, very smooth and glaucous beneath, minutely downy with a downy central rib above; stipules obsolete; branches spreading; catkins nearly sessile, with acute, shaggy scales.——*A bushy* shrub, ten or twelve feet high: leaves an inch and a half long, deep shining green. Flowers in April: grows in the mountainous parts of Scotland: rare. *Eng. Fl.* vol. iv. p. 175. 1431.

11. **S. Davallia'na.** Sm. *Davallian Willow.* Leaves lanceolate, inclining to obovate, finely serrate, or minutely toothed, tapering at both ends, smooth; rather glaucous beneath; flower-stalks, central rib, and young branches, somewhat downy; catkins with small rounded scales; capsules lanceolate, smooth.——*A bushy* shrub, about six feet high, with smooth brown branches: leaves about an inch and a half long. Flowers in May: grows in the Highlands of Scotland. *Eng. Fl.* vol. iv. p. 175. 1432.

12. **S. Wulfenia'na.** *Wulfenian Willow.* Leaves obovate or elliptical, somewhat pointed, finely serrate, smooth, glaucous beneath; catkin dense, with hairy scales, longer than the stalks of the subulate, hairy germens: style longer than the stigmas.——*A shrub* about six feet high: leaves an inch and a half long, with reticulated veins. Flowers in April and May: found by Mr. W. Borrer in Breadalbane and at Kirkby Lonsdale. *Eng. Fl.* vol. iv. p. 177. 1433.

13. **S. te'trapla.** Walk. *Four-ranked Willow.* Leaves between elliptical and oblong, pointed and equally serrate, nearly smooth, glaucous with prominent veins beneath; stipules semi-cordate; scales commonly shorter than the hairy stalks of the oblong smooth germens; style as long as the stigmas.——*A small* shrub, nearly allied to the last, of which Dr. Walker says, "four leaves complete the spiral upon the branch, and on account of this singularity it has been called S. tetrapla." *Essays*, p. 408. Flowers in May: found in Breadalbane by Mr. W. Borrer. *Eng. Fl.* vol. iv. pl. 177. 1434.

14. **S. bi'color.** Sm. *Shining Dark-green Willow.* Leaves between elliptical and oblong, acute, waved, and slightly serrate, nearly smooth, glaucous beneath; leaf-stalks dilated at the base; stipules pointed, serrate; scales obtuse, hairy, half as long as the densely downy, ovate, long-stalked germen.——*A small* tree, six feet high or more, with erect reddish-brown branches. Flowers in April and May: grows in woods and thickets. *Eng. Bot.* vol. xxvi. pl. 1806. *Eng. Fl.* vol. iii. p. 178. 1435.

15. **S. tenuifo'lia.** Sm. *Thin-leaved Willow.* Leaves elliptical, acute, serrate, smoothish, glaucous beneath; stipules small or none;

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scales hairy; capsule ovate, smooth, on a short smooth stalk.——*A small* spreading shrub: the young branches downy. Flowers in May and June: grows about the rocky banks of rivers. *Eng. Bot.* vol. xxxi. pl. 2186. *Eng. Fl.* vol. iv. p. 179. 1436.

16. S. has'tata. L. *Apple-leaved Willow.* Leaves between elliptical and oblong, toothed, waved, thin and crackling, very smooth; stipules cordate, about the length of the flower-stalks; scales obovate, bearded; germen lanceolate, smooth, on a short smooth stalk.——*A shrub* with leaves resembling those of an apple-tree. Flowers in April. Found in Scotland by Mr. Dickson. *Eng. Bot.* vol. xxiii. pl. 1617. *Eng. Fl.* vol. iv. p. 180. 1437.

17. S. petiola'ris. Sm. *Dark Long-leaved Willow.* Leaves lanceolate, serrate, smooth, glaucous beneath, somewhat unequal at the base; stipules lanceolate, somewhat curved, toothed; catkins loose: scales hairy, shorter than the stalks of the ovate silky germens; stigmas divided, sessile.——*A bushy* tree, with slender purplish branches: leaves four inches long, bright-green above. Flowers in April. An American species. Found by Mr. G. Don, in marshes in Angusshire. *Eng. Bot.* vol. xvi. pl. 1147. *Eng. Fl.* vol. iv. p. 181. 1438.

18. S. vitelli'na. L. *Yellow Willow* or *Golden Osier.* Leaves lanceolate, acute, with cartilaginous serratures, smooth above, glaucous and somewhat silky beneath; stipules minute, lanceolate, deciduous, smooth; germen sessile, broadly lanceolate, smooth; scales linear-lanceolate, acute, fringed at the base, longer than the pistil.——*A tree* of moderate height, with smooth, shining, yellow branches. Flowers in May: grows on the banks of rivers: common. *Eng. Bot.* vol. xx. pl. 1389. *Eng. Fl.* vol. iv. p. 182. 1439.

19. S. deci'piens. Hoffm. *White Welsh,* or *Varnished Willow.* Leaves lanceolate, pointed, serrate, very smooth; flower-stalks somewhat glandular; germen tapering, stalked, smooth; style longer than the cleft stigmas; branches highly polished.——*A small* tree, distinguished by its shining clay-coloured branches. When cultivated, affords good rods for basket-work. Flowers in May: grows in low meadows and moist hedges. *Eng. Bot.* vol. xxvii. pl. 1937. *Eng. Fl.* vol. iv. p. 184. 1440.

20. S. fra'gilis. L. *Crack Willow.* Leaves between lanceolate and ovate, pointed, serrate, very smooth; leaf-stalks glandular; germen ovate, abrupt, nearly sessile, smooth; scales oblong, about the length of the stamens; stigmas cleft, longer than the style.——*A tall* tree, with very brittle, smooth, brown branches: leaves four or five inches long, dark green above. Flowers in April and May: grows on the banks of rivers: frequent. *Eng. Bot.* vol. xxvi. pl. 1807. *Eng. Fl.* vol. iv. p. 185. 1441.

21. S. Russellia'na. Sm. *Bedford Willow.* Leaves lanceolate, tapering at both ends, serrate, very smooth; leaf-stalks glandular, sometimes bearing leaflets; germen tapering, stalked, longer than the scales; style as long as the stigmas.——*A tall* and handsome tree, with long light-green leaves. Flowers in April and May: grows by rivers and in marshy woods and meadows, but is not indigenous. *Eng. Bot.* vol. xxvi. pl. 1808. *Eng. Fl.* vol. iv. p. 186. 1442.

22. S. purpu'rea. L. *Bitter Purple Willow.* Branches decum-

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bent; leaves lanceolate, broadest towards the end, serrate, very smooth, narrow at the base; stamen 1; stigmas very short, ovate, nearly sessile.——*A shrub* with spreading branches of a shining deep-purple colour. Flowers in March: grows in low meadows, about the banks of rivers and ditches: rare. *Eng. Bot.* vol. xx. pl. 1388. *Eng. Fl.* vol. iv. p. 187. 1443.

23. **S. He'lix.** L. *Rose Willow.* Branches erect, leaves oblongo-lanceolate, pointed, slightly serrate, very smooth, linear towards the base; stamen 1; style nearly as long as the linear, divided stigmas. ——*A tree* about ten feet high, with erect, pale-yellowish or purplish polished branches. Flowers in March and April: grows on the banks of rivers: common. *Eng. Bot.* vol. xix. pl. 1343. *Eng. Fl.* vol. iv. p. 188. 1444.

24. **S. Lambertia'na.** Sm. *Boyton Willow.* Branches erect, leaves lanceolate, broadest towards the end, pointed, serrate, smooth, rounded at the base; stipules none; stamen 1; stigmas ovate, obtuse, notched, very short, nearly sessile.——*A small* tree with erect, purplish branches. Considered a variety of the last. Flowers in March and April, grows on the banks of rivers in England: rare. *Eng. Bot.* vol. xix. pl. 1359. *Eng. Fl.* vol. iv. p. 190. 1445.

25. **S. Forbya'na.** Sm. *Fine Basket Osier.* Branches erect; leaves between lanceolate and oblong, with shallow serratures, smooth, rounded at the base, glaucous beneath; stamen 1; style nearly as long as the linear, divided stigma.——*A shrub* with erect, slender, grayish-yellow twigs, highly esteemed for the finer kinds of basket-work. Flowers in April: grows in meadows and marshy places in Norfolk and Cambridgeshire: rare. *Eng. Bot.* vol. xix. pl. 1344. *Eng. Fl.* vol. iv. p. 191. 1446.

26. **S. ru'bra.** Huds. *Green-leaved Osier.* Stamens 2, united for half their length; leaves lanceolate, inclining to linear, elongated, acute, smooth, with shallow serratures, green on both sides; stigma ovate, undivided.——*A small* tree, with long, smooth, purplish branches. One of the most valuable for basket-work. Flowers in April and May: grows in low meadows and marshy places: not common. *Eng. Bot.* vol. xvi. pl. 1145. *Eng. Fl.* vol. iv. p. 191. 1447.

27. **S. Crowea'na.** Sm. *Broad-leaved Monadelphous Willow.* Stamens united at the base; leaves elliptical, slightly serrate, smooth, glaucous beneath.——*A bushy* shrub, four or five feet high, with stout brittle brownish-yellow branches: flowers in April and May: grows in marshy meadows and thickets: rare. *Eng. Bot.* vol. xvi. pl. 1146. *Eng. Fl.* vol. iv. p. 192. 1448.

28. **S. prunifo'lia.** Sm. *Plum-leaved Willow.* Leaves broadly ovate, serrate, smooth on both sides, even above, glaucous beneath; stem erect, much branched; capsules ovate, covered, like the scales, with long silky hairs.——*A bushy* shrub, often three feet high, with spreading branches. Flowers in April and May: grows on the Highland mountains. *Eng. Bot.* vol. xix. pl. 1361. *Eng. Fl.* vol. iv. p. 193. 1449.

29. **S. vacciniifo'lia.** Walker. *Bilberry-leaved Willow.* Leaves ovato-lanceolate, smooth and even above, glaucous and silky beneath; capsules ovate, silky; stems decumbent.——*A small* shrub, with long, slender branches, silky when young. Flowers in April: grows

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on the higher mountains of Scotland. *Eng. Bot.* vol. xxxiii. pl. 2341. *Eng. Fl.* vol. iv. p. 194. 1450.

30. **S. venulo'sa.** Sm. *Veiny-leaved Willow.* Leaves ovate, serrate, naked, reticulated with prominent veins above, rather glaucous beneath; capsules ovate, silky; stem erect, much branched.——*A small* bushy shrub, allied to *S. prunifolia.* Flowers in April and May: grows in the Highlands of Scotland. *Eng. Bot.* vol. xix. pl. 1362. *Eng. Fl.* vol. iv. p. 195. 1451.

31. **S. myrsini'tes.** L. *Green Whortle-leaved Willow.* Leaves elliptical, serrate, smooth, veiny, polished on both sides; young branches hairy; germens stalked, downy; capsules subulate.——*A* small bushy shrub with dark-brown branches. Flowers in May and June: grows in the Highlands of Scotland. *Eng. Bot.* vol. xix. pl. 1360. *Eng. Fl.* vol. iv. p. 195. 1452.

32. **S. Dicksonia'na.** Sm. *Broad-leaved Mountain Willow.* Leaves elliptical, acute, slightly toothed, smooth, glaucous beneath; young branches very smooth; catkins ovate, short, erect; germen stalked, ovate, silky; stigmas nearly sessile.——*A* small smooth shrub, with brownish branches. Flowers in April: grows in the Highlands of Scotland. *Eng. Bot.* vol. xx. pl. 1390. *Eng. Fl.* vol. iv. p. 196. 1453.

33. **S. carina'ta.** Sm. *Folded-Leaved Willow.* Leaves ovate, finely toothed, smooth, minutely veined, folded so as to form a keel; catkin cylindrical, with rounded, hairy scales; germen sessile, ovate, silky.——*A* bushy shrub, with brown branches, hairy when young. Flowers in April: grows in the Highlands of Scotland. *Eng. Bot.* vol. xix. pl. 1363. *Eng. Fl.* vol. iv. p. 197. 1454.

34. **S. angustifo'lia.** Wulf. *Little Tree Willow.* Leaves lanceolate, acute, obscurely toothed, smoothish, glaucous beneath, silky when young; branches downy; catkin ovate, erect, germen stalked, ovato-lanceolate, silky.——*Stem* erect, slender, about a foot high, branchless below, like a small tree, with light-brown branches. Flowers in April: grows in the Highlands of Scotland. *S. Arbuscula,* Sm. *Eng. Bot.* vol. xix. pl. 1366. *Eng. Fl.* vol. iv. p. 198. 1455.

35. **S. li'vida.** *Livid Dwarf Willow.* Leaves between elliptical and oblong, obscurely toothed, smooth, livid beneath; stipules none; germen nearly cylindrical, downy, its stalk twice as long as the scale; stigmas nearly sessile.——*A* small shrub, about a foot high, with shining divergent branches. Found by Mr. Maughan, at the foot of Hartfell, near Moffat. *Eng. Fl.* vol. iv. p. 199. 1456.

36. **S. herba'cea.** L. *Least Willow.* Leaves round, serrate, reticulated with veins, smooth and shining on both sides; germen stalked, ovate, smooth.——*A* diminutive shrub, scarcely two inches above ground, but often with long branched stems running under the surface of the ground, sometimes to the length of two feet or more. Flowers in June: grows on the summits of the higher mountains of Scotland, England, and Wales: frequent. *Eng. Fl.* vol. iv. p. 200. 1457.

** *Adult leaves entire, nearly smooth.*

37. **S. reticula'ta.** L. *Wrinkled-leaved Willow.* Leaves broadly

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elliptical, nearly circular, obtuse, entire, leathery, with reticulated veins, nearly smooth, glaucous beneath; germen sessile, downy. ——*A* small shrub, with stems a few inches high, readily distinguished by its curiously reticulated leaves. Flowers in June: grows on the higher mountains of Scotland, Yorkshire, and Wales: rare. *Eng. Bot.* vol. xxvii. pl. 1908. *Eng. Fl.* vol. iv. p. 200. 1458.

*** *Leaves hairy or silky.*

38. **S. glau'ca.** Sm. *Glaucous Mountain Willow.* Leaves nearly entire, elliptico-lanceolate, even and nearly smooth above, woolly and white beneath; leaf-stalks decurrent; germen sessile, ovate, woolly.——*A* shrub, two or three feet high, with short, spreading brown or yellowish branches. Flowers in May: found on the Clova mountains, by Messrs. G. and D. Don. This and the next two are probably of one species. *Eng. Bot.* vol. xxvi. pl. 1810. *Eng. Fl.* vol. iv. p. 202. 1459.

39. **S. Stuartia'na.** Sm. *Small-leaved Shaggy Willow.* Leaves nearly entire, between ovato-lanceolate, acute, shaggy above, densely silky beneath; style as long as the almost sessile, woolly germen; stigmas capillary, deeply divided, as long as the style.——*A* bushy shrub, two or three feet high, with dark-brown branches, downy when young. Flowers in July and August: grows in the Highlands of Scotland. *Eng. Bot.* vol. xxvi. pl. 1809. *Eng. Fl.* vol. iv. p. 203. 1460.

40. **S. arena'ria.** L. *Downy Mountain Willow.* Leaves nearly entire, ovate, acute; reticulated and somewhat downy above, veined and densely woolly beneath; style as long as the sessile, woolly germen; stigmas linear, deeply divided, as long as the style.——*A* small shrub. Flowers in May and June: grows on mountains in the Highlands of Scotland. *Eng. Bot.* vol. xxvi. pl. 1809. *Eng. Fl.* vol. iv. p. 204. 1461.

41. **S. lana'ta.** L. *Woolly Broad-leaved Willow.* Leaves between ovate and roundish, pointed, entire, shaggy on both sides, glaucous beneath; germen sessile, oblong, smooth; style four times as long as the blunt, divided stigmas.——*A* shrub, three or four feet high, with numerous distorted branches, downy when young. Found by Mr. T. Drummond on rocks among the Clova mountains. *Eng. Fl.* vol. iv. p. 205. 1462.

42. **S. argen'tea.** Sm. *Silky Sand Willow.* Leaves elliptical, entire, somewhat revolute, with a recurved point, rather downy above, silky and shining beneath, as well as the branches; stem erect; germen between ovato-lanceolate, silky; its silky stalk nearly as long as the linear, oblong scale; style not longer than the stigmas.——*A* shrub, four or five feet high, with numerous silky branches. A variety of *S. fusca.* Flowers in May: grows in moist moory ground. *Eng. Bot.* vol. xix. pl. 1364. *Eng. Fl.* vol. iv. p. 207. 1463.

43. **S. fœ'tida.** Sm. *Fishy Willow.* Leaves elliptical, nearly entire, with a recurved point, glaucous and silky beneath; stem recumbent; germen ovato-lanceolate, its silky stalk nearly equal to the obovate scale.——*A* low creeping shrub, with long, straight, downy branches, and a nauseous scent, like that of some fresh-water fishes. Considered a variety of *S. fusca.* Flowers in May:

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grows on moist heathy or sandy ground in England. *Eng. Bot.* vol. xxviii. pl. 1962, and pl. 1961. *Eng. Fl.* vol. iv. p. 208. 1464.

44. **S. re'pens.** Sm. *Common Dwarf Willow.* Leaves elliptico-lanceolate, straight, somewhat pointed, nearly entire, almost naked above, glaucous and silky beneath; stipules none; stem depressed, with short erect branches; germen stalked, ovate, downy; capsules smooth.——*A* small shrub, with a prostrate stem, and numerous erect branches. Flowers in May: grows on sandy mountainous heaths: very common. *Eng. Bot.* vol. iii. pl. 183. *Eng. Fl.* vol. iii. p. 209. 1465.

45. **S. fus'ca.** L. *Brownish Dwarf Willow.* Leaves between elliptical and oblong, acute, straight, flat, with a few glandular teeth, glaucous and silky beneath; stipules none, stem erect, much branched; germen sessile, nearly smooth, tapering into an elongated style.——*A* small bushy shrub, from six to twelve inches high, with brown branches, downy when young. Flowers in May: grows on moist mountainous heaths. *Eng. Bot.* vol. xxviii. pl. 1960. *Eng. Fl.* vol. iv. p. 210. To this variable species may probably be referred the three preceding, as well as the two next. 1466.

46. **S. ambi'gua.** Ehrh. *Ambiguous Willow.* "Leaves oval, obovate, or lanceolate, pubescent, slightly toothed, with a recurved point, somewhat rugose above, glaucous, with prominent veins beneath; catkins stalked, erect, cylindrical; germens stalked, densely silky; style very short; stigmas short, at length cloven." Borr. ——*A small* straggling shrub, erect or procumbent. Flowers in May: grows in various parts of England and Scotland, and presents several varieties. *Eng. Bot. Suppl.* pl. 2733. 1467.

47. **S. prostra'ta.** Sm. *Early Prostrate Willow.* Leaves between elliptical and oblong, convex, somewhat toothed, with a curved point; glaucous, silky and veiny beneath; stipules minute; stem prostrate, with elongated, straight branches; germen stalked, ovate, silky, style shorter than the stigmas. Flowers in March and April: grows on heaths. A variety of *S. fusca.* *Eng. Bot.* vol. xxviii. pl. 1959. *Eng. Fl.* vol. iv. p. 211. 1468.

48. **S. incuba'cea.** L. *Trailing Silk Willow.* Leaves elliptico-lanceolate, pointed, straight, nearly entire; convex and smooth above, with prominent reticulated veins, glaucous and silky beneath; stem recumbent; catkins ovato-oblong; stalks of the silky germens longer than the scales; capsules smooth.——*A small* shrub, with reclining or prostrate dark-brown stems about two feet long. Flowers in May: grows in sandy meadows: found by Mr. E. Forster at Hopton, in Suffolk. A variety of *S. fusca.* *Eng. Fl.* vol. iv. pl. 212. 1469.

49. **S. Donia'na.** Sm. *Don's Willow.* Leaves lanceolate, broadest towards the end, acute, straight, slightly serrate, livid and somewhat silky beneath; stem and branches erect; catkins cylindrical; germen stalked, silky, longer than the obovate, bearded scales.——*A shrub* five or six feet high, with straight, reddish branches. Flowers in May: found in Scotland by Mr. G. Don. *Eng. Fl.* vol. iv. p. 213. 1470.

50. **S. rosmarinifo'lia.** L. *Rosemary-leaved Willow.* Leaves linear-lanceolate, pointed, straight, entire, silky beneath; stem erect;

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catkins ovate, recurved; germen stalked, lanceolate, silky.——*A slender* shrub, two or three feet high, with erect, very slender branches, silky when young. Flowers in April: grows in moist sandy ground. *Eng. Bot.* vol. xix. pl. 1365. *Eng. Fl.* vol. iv. p. 214. 1471.

51. S. cine'rea. L. *Gray Sallow.* Stem erect; lower leaves entire, upper serrate, lanceolate, broadest towards the end; glaucous, downy and reticulated with veins beneath: stipules semi-cordate, serrate; germen silky; its stalk half as long as the lanceolate scales.——*A tree* twenty or thirty feet high, with smooth, reddish-brown, crooked branches. Flowers in April: grows in moist woods and hedges. *Eng. Bot.* vol. xxvii. pl. 1897. *Eng. Fl.* vol. iv. p. 215. 1472.

52. S. auri'ta. L. *Round-eared Willow.* Branches spreading; leaves somewhat serrate, convex, obovate, obtuse, with a small hooked point, hairy and reticulated with veins on both sides. Stipules roundish, convex, toothed; germen silky, stalked; stigmas nearly sessile.——*A bushy* shrub, three or four feet high, with spreading or trailing branches of a brown colour. Flowers in April and May: grows in moist woods and thickets. *Eng. Bot.* vol. xxi. pl. 1487. *Eng. Fl.* vol. iv. p. 216. 1473.

53. S. aqua'tica. Sm. *Water Sallow.* Stem and branches erect; leaves slightly serrate, elliptical, broadest towards the end, minutely downy, flat, rather glaucous beneath; stipules rounded, toothed; germen silky, stalked; stigmas nearly sessile.——*A shrub* or small tree, with numerous erect branches. Flowers in April: grows in wet woods and hedges, in marshy places, and on the banks of rivers: very common. *Eng. Bot.* vol. xx. pl. 1437. *Eng. Fl.* vol. iv. p. 218. 1474.

54. S. oleifo'lia. Sm. *Olive-leaved Sallow.* Stem erect; branches straight, spreading; leaves lanceolate, broadest towards the end, flat, rather stiff, minutely toothed, acute, glaucous, reticulated and finely hairy beneath; stipules small, notched, rounded; catkins oval, nearly half as broad as long.——*A small* tree, with round branches; when young brown and hoary. Flowers in March: grows in wet woods and hedges. *Eng. Bot.* vol. xx. pl. 1402. *Eng. Fl.* vol. iii. p. 219. 1475.

55. S. cotinifo'lia. Sm. *Quince-leaved Sallow.* Stem erect, branches spreading, downy; leaves broadly elliptical, nearly round, slightly toothed, glaucous and downy, with rectangular veins beneath; style as long as the linear, notched stigmas.——*A shrub* from two to eight feet high, with straight, brown, downy branches. Flowers in April: grows in thickets and woods. *Eng. Bot.* vol. xx. pl. 1403. *Eng. Fl.* vol. iv. p. 220. 1476.

56. S. hir'ta. Sm. *Hairy-branched Sallow.* Stem erect; branches densely hairy; leaves elliptical, inclining to cordate, pointed, finely crenate, downy on both sides; stipules semi-cordate, flat, toothed; nearly smooth.——*A small* tree, with thick, round, hoary branches. Flowers in April and May: found in Norfolk by Mr. Crowe. *Eng. Bot.* vol. xx. pl. 1404. *Eng. Fl.* vol. iv. p. 221. 1477.

57. S. rupes'tris. Don. *Silky Rock Sallow.* Stem procumbent or depressed; leaves obovate, acute, serrate, flat, even, silky on both sides; stipules hairy; branches minutely downy; germen stalked,

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subulate, silky; style as long as the blunt undivided stigmas.——*A small* trailing shrub, with dark-coloured branches, downy when young. Flowers in May: grows on rocks in the Highlands of Scotland. *Eng. Bot.* vol. xxxiii. pl. 2342. *Eng. Fl.* vol. iv. p. 222. 1478.

58. **S. Andersonia'na.** Sm. *Green Mountain Sallow.* Stem erect; leaves elliptical, acute, finely notched, slightly downy, paler beneath; stipules semi-ovate, nearly smooth; branches minutely downy; germen smooth, its stalk almost equal to the scale; style cleft, longer than the cleft stigmas.——*A large* shrub, with dark-brown branches, at first green and downy. Flowers in April and May: grows in woods and on the banks of rivers in Scotland and the north of England. *Eng. Bot.* vol. xxxiii. pl. 2343. *Eng. Fl.* vol. iv. p. 223. 1479.

59. **S. Forsteria'na.** Sm. *Glaucous Mountain Sallow.* Stem erect; branches minutely downy; leaves elliptical, broadest towards the end, acute, crenate, slightly downy; glaucous beneath; stipules rounded, recurved; germen stalked, subulate, silky; style as long as the blunt notched stigmas.——*A small* tree, with downy branches. Flowers in May: grows in woods and on the banks of rivers in Scotland and the north of England. *Eng. Bot.* vol. xxxiii. pl. 2344. *Eng. Fl.* vol. iv. p. 224. 1480.

60. **S. sphacela'ta.** Sm. *Withered-pointed Sallow.* Stem erect; leaves between elliptical and obovate, entire, or slightly serrate, downy on both sides, discoloured at the point; stipules semi-cordate, toothed, erect; germen stalked, lanceolate, silky; stigmas notched, longer than the style.——*A small* bushy tree, six or eight feet high, the young branches covered with soft whitish hairs. Flowers in April and May: grows in valleys in the Highlands of Scotland. *Eng. Bot.* vol. xxxiii. pl. 2333. *Eng. Fl.* vol. iv. p. 224. 1481.

61. **S. capre'a.** L. *Great Round-leaved Sallow.* Stem erect; leaves between obovate or roundish, pointed, serrate, waved, pale and downy beneath; stipules somewhat luneate; catkins oval; germen stalked, ovate, silky; stigmas nearly sessile, undivided; capsules swelling.——*A* tree of moderate size, with spreading, brown or purplish branches: leaves from two to three inches long. Flowers in April: grows in woods and hedges: common. *Eng. Bot.* vol. xxi. pl. 1488. *Eng. Fl.* vol. iv. p. 226. 1482.

62. **S. acumina'ta.** Sm. *Long-leaved Sallow.* Stem erect; leaves between oblongo-lanceolate, pointed, waved, finely toothed, glaucous and downy beneath; stipules semi-ovate, finely curved; catkins cylindrical; germen stalked, ovate, hairy; style as long as the undivided stigmas.——*A* tree of moderate size, with spreading, minutely downy branches. Flowers in April: grows in woods and on the banks of rivers: common. *Eng. Bot.* vol. xx. pl. 1434. *Eng. Fl.* vol. iv. p. 227. 1483.

63. **S. vimina'lis.** L. *Common Osier.* Leaves linear-lanceolate, elongated, taper-pointed, entire, waved, snow-white and silky beneath; branches straight and slender; germen sessile; style as long as the linear, undivided stigmas.——*A* tree, with very long, straight branches, downy when young. Cultivated for basket-work of various kinds. Flowers in April and May: grows in wet meadows, and by rivers: common. *Eng. Bot.* vol. xxvii. pl. 1898. *Eng. Fl.* vol. iv. p. 228. 1484.

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64. S. Smithia'na. Willd. *Silky-leaved Osier.* Leaves lanceolate, pointed, slightly wavy, minutely toothed; soft and minutely downy above, whitish and silky beneath; stipules luneate, minute; catkins ovate; germen stalked; style shorter than the linear, deeply divided stigmas.——Branches long, slender, erect, reddish, smooth, finely downy when soft. Flowers in April and May: grows in meadows, and on the banks of rivers. *Eng. Bot.* vol. xxi. pl. 1500. *Eng. Fl.* vol. iv. p. 229. *S. mollissima.* 1485.

65. S. stipula'ris. Sm. *Auricled Osier.* Leaves lanceolate, pointed, slightly waved, obscurely crenate, soft and nearly naked above, white and downy beneath; stipules semi-cordate, stalked, very large; nectary cylindrical; germen ovate, nearly sessile, as well as the linear, undivided stigmas.——*Twigs* erect, long, soft, and downy, pale reddish-brown, brittle. Flowers in March: grows in hedges and woods. *Eng. Bot.* vol. xvii. pl. 1214. *Eng. Fl.* vol. iv. p. 230. 1486.

66. S. al'ba. L. *Common White Willow.* Leaves between elliptical and lanceolate, pointed, serrate, silky on both sides, the lowest serratures glandular; stamens hairy; germen smooth, almost sessile; stigmas deeply cleft; scales rounded.——*A* tall tree, with rugged bark and spreading branches, silky when young. Flowers in May: grows in moist woods, and on the banks of rivers and ditches: common. *Eng. Bot.* vol. xxxiv. pl. 2430. *Eng. Fl.* vol. iv. p. 231. 1487.

TRIANDRIA.

2. EMPETRUM. Linn. CROW-BERRY.

Barren Flowers. Perianth of 6 scales, the inner 3 spreading and petaloid. Filaments from 3 to 9, capillary, long, pendulous; anthers roundish, deeply cleft, 2-celled.

Fertile Flowers. Perianth as above. Germen superior, round, depressed; style very short, erect; stigmas 9, oblong, spreading. Berry globular, depressed, wider than the calyx, 1-celled. Seeds 9, triangular, closely arranged in a circle.—Name from εν, in, and πετρος, a stone. 495.

1. E. ni'grum. L. *Common Crow-berry.* Stem and branches procumbent, leaves linear-oblong.——*A* small procumbent shrub, with numerous slender branches: leaves fringed at the edges. Flowers reddish, axillar: berries black. The berries are eaten by grouse and other birds. They are not unpleasant, and appear to be perfectly wholesome. Flowers in April and May: grows on heaths abundantly. *Eng. Bot.* vol. viii. pl. 526. *Eng. Fl.* vol. iv. p. 233. 1488.

3. RUS'CUS. Linn. BUTCHER'S-BROOM.

Barren Flowers. Perianth of 6 ovate, spreading leaves; 3 alternate ones smaller. Filaments united into an erect tube, coloured, as long as the calyx; anthers 3, spreading.

Perfect Flowers. Perianth and stamens as above. Germen superior, oblong; styles short and thick; stigma obtuse,

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protruded through the orifice of the nectary. Berry globular, 3-celled. Seeds seldom more than one, globular, hard. Name anciently *bruscus*. 496.

1. R. aculea'tus. L. *Common Butcher's-broom.* Leaves ovate, acuminate, flowering on the upper side.——*Stems* round, furrowed, two feet high: flower solitary: berry scarlet. Perennial: flowers in March and April: grows on heaths and in woods: frequent in England. *Eng. Bot.* vol. viii. pl. 560. *Eng. Fl.* vol. iv. p. 235. 1489.

TETRANDRIA.

4. VIS'CUM. Linn. MISSELTOE.

Barren Flowers. Calyx a slight border. Corolla deeply divided into 4 ovate, acute, equal segments. Filaments none; anthers 4, ovate, compressed, cellular, seated on the base of each segment of the corolla.

Perfect Flowers. Calyx a slight border. Corolla of 4 ovate, equal petals. Germen inferior, ovate, crowned with the calyx; style none; stigma obtuse. Berry globular, smooth, juicy, viscid, 1-celled. Seed 1, cordate, compressed, obtuse.—Name from ἰξός, of the Greeks. 497.

1. V. al'bum. L. *Common White Misseltoe.* Leaves oblongo-lanceolate, broader towards the end, obtuse; stem forked; heads of flowers sessile.——*Root* woody, thick: stem bushy, jointed, smooth, about a foot high: leaves stiff: flowers yellowish: berries yellowish white. Bird-lime is made from the berries and bark. A perennial parasitical shrub, growing on the apple-tree, hawthorn, oak, and other trees. Flowers in May. Common in Herefordshire and Worcestershire. *Eng. Bot.* pl. 1470. *Eng. Fl.* vol. iv. p. 236. 1490.

5. HIPPO'PHAE. Linn. SALLOW-THORN.

Barren Flowers. Perianth divided into 2 roundish segments, at first folded flat together. Filaments 4, very short, erect; anthers oblong, angular, erect, 2-celled, not longer than the perianth.

Fertile Flowers. Perianth inferior, tubular, cleft at the top, deciduous. Corolla none. Germen superior, small, roundish; style short and thick; stigma simple, oblong, protruded beyond the calyx. Berry globular, juicy, 1-celled. Seed solitary, oblong, polished.—Name from ἵππος, a horse, and φαω, to brighten. 498.

1. H. rhamno'ides. L. *Common Sallow-thorn. Sea Buck-thorn.* Leaves linear-lanceolate, scattered.——*A* bushy shrub, about five feet high, with straight, spreading branches, each ending in a thorn: leaves dark-green above, silvery beneath: flowers green: berries orange. Flowers in May: grows on cliffs on the east and south-east coast of England: frequent. *Eng. Bot.* vol. vi. pl. 425. *Eng. Fl.* vol. iv. p. 238. 1491.

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6. MYRI'CA. Linn. SWEET-GALE.

Barren Flowers. Catkin ovato-oblong, loosely imbricated all round, with ovate scales. Filaments 4, short, capillary, erect. Anthers large, 2-lobed.

Fertile Flowers. Catkin as above. Germen ovate, superior; styles 2, filiform, spreading, longer than the calyx; stigma acute. Berry 1-celled. Seed 1.—Name μυρικη of the Greeks. 499.

1. M. Ga'le. L. *Sweet Gale. Dutch Myrtle.* Leaves lanceolate, broader towards the end, serrate; scales of the catkins pointed. ——*A* shrub, from one to three feet high, with numerous alternate branches: berries very small. The whole plant exhales a strong, rather pleasant aromatic odour. Flowers in May: grows on wet heaths abundantly. *Eng. Bot.* vol. viii. pl. 562. *Eng. Fl.* vol. iv. p. 239. 1492.

PENTANDRIA.

7. HU'MULUS. Linn. HOP.

Barren Flowers. Perianth of 5 oblong, concave leaves. Filaments 5, capillary, very short; anthers oblong, 2-celled, with 2 terminal pores.

Fertile Flowers. Catkin of numerous large, membranous, imbricated scales. Perianth an oblique undivided scale. Germen superior, minute, oblong. Styles 2, subulate, spreading, downy; stigmas simple. Seed with the embryo spiral.—Name from *humus*, rich soil. 500.

1. H. Lu'pulus. L. *Common Hop.*——*Stems* herbaceous, twining, branched, angular, rough: leaves opposite, stalked, cordate, serrate, veined, rough: flowers pale-green. The properties of the cones are well known. Perennial: flowers in July: grows in thickets and hedges, but is not indigenous. *Eng. Bot.* vol. vi. pl. 427. *Eng. Fl.* vol. iv. p. 288. 1493.

HEXANDRIA.

8. TA'MUS. Linn. BLACK BRYONY.

Barren Flowers. Perianth with 6 deep, broadly lanceolate segments, their upper part spreading. Filaments 6, subulate, equal, shorter than the perianth; anthers roundish.

Fertile Flowers. Perianth regular, 6-cleft, superior, deciduous. Germen inferior, ovate or oblong. large, smooth; style cylindrical, as long as the perianth; stigmas 3, acute, spreading. Berry oval, 3-celled. Seeds 2 in each cell.—Name of doubtful origin. 501.

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1. T. commu'nis. L. *Common Black Bryony.* Leaves cordate, undivided.——*Root* large, fleshy, externally black: stems twining: leaves bright-green: flowers greenish-white: berries scarlet. Perennial: flowers in June: grows in hedges and woods, in England: frequent. *Eng. Bot.* vol. ii. pl. 91. *Eng. Fl.* vol. iv. p. 241. 1494.

OCTANDRIA.

9. POPULUS. Linn. POPLAR.

Barren Flowers. Catkin oblong, loosely imbricated, cylindrical, imbricated with cuneiform, flat scales, jagged at the edges. Perianth turbinate beneath, tubular, dilated and obliquely cup-shaped above. Filaments 8 or more, capillary, very short; anthers large, 4-cornered.

Fertile Flowers. Catkin and perianth as above. Germen superior, ovate, pointed; style none; stigmas 4 or 8, subulate. Capsules ovate, 2-valved, 1-celled. Seeds numerous, small, ovate, downy at the top.—Name *populus*, people, it being by the Romans esteemed the tree of the people. 502.

1. P. al'ba. L. *White Poplar. Abele Tree.* Leaves nearly triangular, somewhat cordate at the base, toothed, cottony beneath; fertile catkin ovate; stigmas 4.——*A* tall tree, with smoothish bark and horizontal branches: leaves 3-lobed: flowers in March: grows in moist woods: common; but probably not indigenous. *Eng. Bot.* vol. xxiii. pl. 1618. *Eng. Fl.* vol. iv. p. 243. 1495.

2. P. canes'cens. Sm. *Gray Poplar.* Leaves roundish, deeply waved, toothed; hoary beneath; fertile catkins cylindrical; stigmas 8.——*A* tall tree, with silvery smooth bark and ascending branches. Flowers in March: grows near rivers and on dry heaths in Norfolk; probably not indigenous. *Eng. Bot.* vol. xxiii. pl. 1619. *Eng. Fl.* vol. iv. p. 243. 1496.

3. P. tre'mula. L. *Trembling Poplar. Aspen.* Leaves nearly orbicular, sinuate or toothed, smooth on both sides; leaf-stalks compressed; stigmas 4.——*A rather* tall tree, with smooth bark, remarkable for the fluttering motion of its leaves in the wind, caused by their compressed stalks. Flowers in March and April: grows in woods, by the sides of rivers, and in clefts of rocks: frequent. *Eng. Bot.* vol. xxvii. pl. 1909. *Eng. Fl.* vol. iv. p. 244. 1497.

4. P. ni'gra. L. *Black Poplar.* Leaves deltoid, acute, serrate, smooth on both sides; catkins bipartite, cylindrical; stigmas 4.——*A tall* tree, with thick blackish bark, and smooth branches. Flowers in March: grows about the banks of rivers: frequent; probably not indigenous. *Eng. Bot.* vol. xxvii. pl. 1910. *Eng. Fl.* vol. iv. p 245. 1498.

ENNEANDRIA.

10. MERCURIA'LIS. Linn. MERCURY.

Barren Flowers. Perianth deeply divided into 3 ovate

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spreading segments. Filaments from 9 to 12, capillary, erect, nearly as long as the perianth; anthers with globular lobes.

Fertile Flowers. Perianth as above. Germen superior, roundish, compressed, with a furrow on each side, bristly; styles 2, tapering, rough, spreading; stigmas acute. Capsule of 2 globular lobes, 2-celled. Seeds solitary, globular.—Named after *Mercury*. 503.

1. **M. peren'nis.** L. *Perennial Mercury.* Stem simple; leaves ovate, serrate, rough; root creeping.——*Stems* about a foot high, square, leafy at the upper part: flowers in axillar spikes: poisonous. Perennial: flowers in April and May: grows in bushy or shady places, on banks, and by walls and hedges: common. *Eng. Bot.* vol. xxvi. pl. 1872. *Eng. Fl.* vol. iv. p. 248. 1499.

2. **M. an'nua.** L. *Annual Mercury.* Stem branched; branches opposite, crossing each other; leaves narrow ovate, serrate, smooth; root fibrous.——*Stem* from six inches to a foot high, erect, bushy, smooth: flowers in axillar spikes: poisonous. Annual: flowers from June to September: grows in waste and cultivated ground: not common. *Eng. Bot.* vol. viii. pl. 559. *Eng. Fl.* vol. iv. p. 248. 1500.

11. HYDRO'CHARIS. Linn. FROG-BIT.

Barren Flowers. Spatha 2-leaved. Perianth with 6 segments, the inner 3 much larger. Filaments 9, subulate, erect, in 3 rows, the middle row producing from its base a subulate beak, the 2 other rows connected at the base and adhering to the beak; anthers 2-lobed, below the summits of the filaments.

Fertile Flowers. Spatha and perianth as in the barren flowers. Germen inferior, roundish; styles 6, compressed, channelled, as long as the calyx; stigmas cleft, acute. Capsule nearly globular, leathery, 6-celled. Seeds numerous, roundish, minute.—Named from ὕδωρ, water, and χαίρω, to rejoice. 504.

1. **H. Mor'sus-ranæ.** L. *Common Frog-bit.*——*Root* of long slender fibres: leaves stalked, reniform, purplish beneath, floating: spatha membranous, pellucid: flowers erect, large, white, yellow in the centre. Perennial: flowers in July: grows in ditches, and slow streams, in England and Ireland: not common. *Eng. Bot.* vol. xii. pl. 808 *Eng. Fl.* vol. iv. p. 250. 1501.

12. ANA'CHARIS. Rich. ANACHARIS.

Spatha tubular, bifid, containing a single flower.

Barren Flower. Perianth 6-cleft. Stamens 9.

Fertile Flower. Perianth with the tube filiform, the limb 6-cleft. Sterile stamens 3, subulate; style filiform; stigmas 3. Berry 1-celled, few-seeded. Name, ἀνά, like, and χαρις, contracted for Hydrocharis. 505.

1. **A. Alsinas'trum.** Bab. *Long-flowered Anacharis.* Leaves 3 or 4 in a whorl, linear or oblong, minutely serrulate; spatha of the fertile flowers many times longer than the tube of the perianth; stigmas ligulate. Bab. *Ann. Nat. Hist.* ser. 2. i. 83, pl. 8. Hooker and Arn. 411.——*An* American plant, which suddenly made its ap-

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pearance in many localities, and in abundance: first observed by Dr. Johnston, in 1841. Perennial: flowers from July to October: grows in ponds, ditches, and streams, in many parts of England: in the Whiteadder, Berwickshire; and near Dublin. 1502.

MONADELPHIA.

13. JUNI'PERUS. Linn. JUNIPER.

Barren Flowers. Catkin conical, with 3 or more rows of whorled, imbricated, oval scales, 3 in each whorl, and 1 at the end. Corolla none. Filaments in the terminal flower 3, subulate, united at the base; in the other flowers hardly perceptible; anthers 3, 2-lobed, in the terminal flower distinct, in the others fixed to the base of the scale.

Fertile Flowers. Calyx superior, with 3 very small permanent segments, united to the germen. Petals 3, acute, stiff, permanent. Germen roundish; styles 3, very short; stigmas simple. Berry roundish, with 3 small tubercles at its lower part, being the points of the calyx now united to the fruit, and 3 small teeth at the summit, originating from the petals. Seeds oblong, hard, convex externally, angular internally. 506.

1. J. commu'nis. L. *Common Juniper.* Leaves 3 in each whorl, mucronate, spreading, longer than the ripe fruit; stem erect.——*A shrub*, from two to five feet high, with very numerous branches: leaves linear, channelled and glaucous above, convex and keeled beneath: flowers axillar, sessile, small: berries globular, bluish-black, sweetish, with a strong taste of turpentine. The berries have been used in the distillation of gin. In this country oil of turpentine is employed for the same purpose. Flowers in May: grows on dry heaths: common. *Eng. Bot.* vol. xvi. pl. 1100. *Eng. Fl.* vol. iv. p. 251. 1503.

2. J. na'na. L. *Dwarf Alpine Juniper.* Leaves 3 in each whorl, mucronate, ascending, as long as the ripe fruit; stem recumbent.——*A small* shrub with prostrate stems: leaves more or less curved: berries much larger and more oval than in the other species, of which some consider it as a variety. Flowers in May: grows on the higher mountains of Scotland: very abundant in the outer Hebrides, nearly as low as the level of the sea. *Eng. Bot.* vol. iv. p. 252. 1504.

14. TAX'US. Linn. YEW.

Barren Flowers in oval catkins, surrounded at the base with imbricated bracts. Scales crowded, peltate, with 3 to 8 anthers; cells on the lower surface.

Fertile Flower. Calyx minute, inferior, cup-shaped, afterwards enlarged, permanent. Germen superior, ovate, acute; style none; stigma obtuse. Berry formed of the enlarged pulpy, coloured calyx. Seed 1, oblong, projecting beyond the en-

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larged calyx.—Name from τοξος, an arrow, because that weapon was anciently poisoned with its juice. 507.

1. T. bacca'ta. L. *Common Yew.* Leaves 2-rowed, linear, crowded.——*A tree* with deciduous bark, and horizontal branches: leaves dark-green, smooth and shining above, paler beneath: flowers axillar, solitary, each from an imbricated bud: berries scarlet. The wood is hard and tough, and is used for cabinet-work: the leaves are fetid and poisonous: the berries have a sweetish taste, and may be eaten with safety. It bears clipping, and forms excellent hedges. Flowers in March and April: grows on rocky places in Cumberland and Westmoreland: very rare in Scotland. The *Irish Yew, T. fastigiata,* Lindl., common in gardens, has scattered leaves, and a different habit. It is said to have originated from two bushes brought from the neighbourhood to Florence-court, the seat of Lord Enniskillen. *Eng. Bot.* vol. xi. pl. 746. *Eng. Fl.* vol. iv. p. 253. 1505.

Class XXIII. POLYGAMIA.

Flowers furnished with Stamens and Pistils, and others with Stamens only, or with Pistils only, on the same Plant, or on different Plants of the same Species.

Order I. MONŒCIA. *Flowers different on the same plant.*

1. A'TRIPLEX. *Sterile Flower. Perianth* with 3 to 5 deep segments. *Stamens* 5.
Fertile Flower. Perianth of 2 valves. *Stamens* none. *Style* deeply cleft. *Utricle* covered by the enlarged perianth. *Seed* compressed.

POLYGAMIA.—MONŒCIA.

1. ATRIPLEX. Linn. ORACHE.

Sterile Flowers. Perianth inferior, permanent, deeply divided into 5 equal, ovate, concave segments, membranous at the edges. Filaments 5, subulate, as long as the perianth; anthers round, 2-lobed.

Fertile Flowers. Perianth inferior, deeply divided into 2 large, flat, ovate segments. Germen superior, compressed; style short, deeply divided; stigmas spreading. Seed 1, round, compressed, invested by a thin pellicle, and inclosed between the enlarged, cordate leaves of the perianth. 508.

1. A. portulaco'ides. L. *Shrubby Orchis. Sea Purslane.* Stem shrubby, spreading leaves lanceolate, inclining to obovate, entire, tapering at the base.——*Stems* from one to two feet high, branched, ascending: leaves opposite, stalked, mealy: clusters axillar and

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terminal: flowers small, yellowish. A shrub: flowers in July and August: grows in muddy places on the sea-coast: not common. *Eng. Bot.* vol. iv. pl. 261. *Eng. Fl.* vol. iv. p. 256. 1506.

2. **A. lacinia'ta.** Sm. *Frosted Sea Orache.* Stem herbaceous, spreading; leaves between triangular and ovate, widely toothed, mealy beneath.——*Stems* about a foot high, mealy, alternately branched: leaves alternate, stalked, entire at the base: perfect flowers in terminal, lobed clusters, their germens commonly about 5: fertile flowers axillar, several together. Annual: flowers in July: grows in sand on the sea-coast: frequent. *Eng. Bot.* vol. iii. pl. 165. *Eng. Fl.* vol. iv. p. 257. 1507.

3. **A. pa'tula.** L. *Spreading Halbert-shaped Orache.* Stem herbaceous, spreading; leaves between lanceolate and triangular, somewhat hastate; calyx of the fruit tuberculated at the sides.——*Stem* and leaves dull-green, slightly mealy, often reddish. Annual: flowers in June and July: grows in cultivated and waste ground: common. *Eng. Bot.* vol. xiii. pl. 936. *Eng. Fl.* vol. iv. p. 257. 1508.

4. **A. angustifo'lia.** Sm. *Spreading Narrow-leaved Orache.* Stem herbaceous; leaves lanceolate, entire, the lower ones 3-lobed; calyx of the fruit hastate, slightly tuberculated at the sides.——*Resembles* the former, of which it is probably only a variety. Annual; flowers in July: grows in cultivated and waste ground: common. *Eng. Bot.* vol. xxv. pl. 1774. *Eng. Fl.* vol. iv. p. 259. 1509.

5. **A. erec'ta.** Huds. *Upright Spear-leaved Orache.* Stem herbaceous, erect; leaves broadly lanceolate, the lower ones sinuate; calyx of the fruit covered with sharp tubercles.——*Leaves* alternate, stalked, slightly powdery: clusters terminal, erect, compound. Annual: flowers in August: grows in waste ground: very rare. Battersea fields, London. Perhaps only a variety of the last. *Eng. Bot.* vol. xxxi. pl. 2223. *Eng. Fl.* vol. iv. p. 259. 1510.

6. **A. littora'lis.** L. *Grass-leaved Sea Orache.* Stem herbaceous, erect; leaves all linear, entire or toothed; calyx of the fruit sinuated and covered on the back with sharp tubercles. Annual: flowers in August and September: grows on the sea-shore: frequent. *Eng. Bot.* vol. x. pl. 708. *Eng. Fl.* vol. iv. p. 260. 1511.

7. **A. peduncula'ta.** L. *Stalked Sea Orache.* Stem herbaceous, undulated, spreading; leaves obovate, entire; seed-bearing flowers stalked, cuneiform.——*Stem* and leaves mealy. Annual: flowers in August and September: grows on the sea-coast of the south of England and Ireland: frequent. *Eng. Bot.* vol. iv. pl. 232. *Eng. Fl.* vol. iv. p. 261. 1512.

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CLASS XXIV. CRYPTOGAMIA.

Flowerless plants, presenting none of the characters of the preceding classes.

(Only one of the great Sections of this very extensive Class is here given.)

Section I. FILICES. FERNS. *Leafy flowerless plants, having the fructification generally of one, sometimes of two kinds, and consisting of spores, or in embryonate seeds, inclosed in thecæ or capsules, which are generally collected into sori or spikes, and either naked or covered with a membranous indusium or involucre.*

Order I. POLYPODIACEÆ.† *Capsules in masses, or Sori, on the back of a leafy frond, each capsule 2-valved, bound with a jointed, elastic ring.*

1. CE'TERACH. *Sori* oblong, straight, scattered. *Indusium* none.
2. POLYPO'DIUM. *Sori* roundish, scattered. *Indusium* none.
3. WOOD'SIA. *Sori* roundish, scattered. *Indusium* fixed by a central stalk under each sorus, its margin divided into several capillary segments.
4. ASPI'DIUM. *Sori* roundish, scattered. *Indusium* round or reniform, fixed by the centre, separating all round.
5. CYSTOP'TERIS. *Sori* roundish, scattered. *Indusium* round, concave, fixed beneath by a lateral point, finally jagged and reflexed.
6. ATHY'RIUM. *Sori* oblongo-reniform, scattered. *Indusium* opening towards the central rib or vein, fringed.
7. ASPLE'NIUM. *Sori* linear, scattered. *Indusium* linear, opening at one side, towards the central rib or vein.
8. SCOLOPEN'DRIUM. *Sori* linear, scattered in pairs, between 2 parallel veins. *Indusia* 2, linear, opposite.
9. BLECH'NUM. *Sori* linear, single, close to the central rib. *Indusium* linear, flat, opening towards the rib.
10. PTE'RIS. *Sori* linear, continuous, marginal. *Indusium* formed of the inflexed margin of the frond, opening inwards.

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† A few additional terms are employed in this order:—
The leaves are called *fronds*.
The *stipe* or *stalk* of the frond is the part which elevates it from the ground.
The *rachis* or *shaft* is the direct continuation of the stalk.
The *partial stalks* are the branches of the shaft.
The *central rib* is the rib or vein which runs along the middle of the ultimate divisions of the frond.
Sori, masses or groups of capsules, arranged on the back of the frond.
Indusia or *covers*, membranous coverings for the sori.

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11. CRYPTOGRAM'MA. *Sori* at length confluent. *Indusia* formed of the inflexed margins of the fronds, opening inwards.
12. ADIAN'TUM. *Sori* oblong or roundish. *Indusia* formed of separate portions of the margins turned in.
13. TRICHO'MANES. *Sori* oblong, imbedded in the edge of the frond. *Indusium* marginal, pitcher-shaped, of one leaf, opening outwards.
14. HYMENOPHYL'LUM. *Sori* roundish, imbedded in the edge of the frond. *Indusia* marginal, compressed, 2-valved, opening outwards.

Order II. OSMUNDACEÆ. *Capsules clustered on the margin of an altered frond, with an obscure ring, reticulated, pellucid, opening by two regular valves. Fronds circinate in æstivation.*

15. OSMUN'DA. *Capsules* stalked, globular, clustered.

Order III. OPHIOGLOSSACEÆ. *Capsules sessile, on the margin of a contracted frond, without ring, coriaceous, opaque.*

16. BOTRY'CHIUM. *Capsules* on the margin of a pinnate rachis.
17. OPHIOGLOS'SUM. *Capsules* connate, in a 2-rowed spike.

Order IV. LYCOPODIACEÆ. *Plants having axillar or spiked Capsules or Stems, furnished with numerous small undivided leaves.*

18. LYCOPO'DIUM.

Order V. EQUISETACEÆ. *Plants having a terminal spike, consisting of angular scales bearing beneath Capsules, containing spores, each furnished with 4 clavate filaments.*

19. EQUISE'TUM.

Order VI. MARSILEACEÆ. *Capsules ringless, within involucres, situated near the root.*

20. ISO'ETES. *Involucres* formed by the swollen bases of the leaves.
21. PILULA'RIA. *Involucres* rising from the base of the leaves.

Order I. POLYPODIACEÆ. *Plants consisting of a rhizoma or trunk, and fronds, bearing fructification on their under side or margin.*

1. CE'TERACH. Willd. CETERACH.

Sori oblong or somewhat linear, straight, scattered. Indusium wanting, or reduced to a narrow membrane attached to the lower margin of each sorus.—Name of Arabic origin. 509.

1. C. officina'rum. Willd. *Common Ceterach* or *Hart's Tongue.* Frond pinnatifid, scaly at the back.——*Frond* from three to six inches high, leathery, oblong, deep-green, thickly covered on the back with chaffy scales. Perennial: bears fruit through the greater

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part of the year: grows on walls and rocks: common in the south of England and in Ireland, rare in Scotland. *Eng. Bot.* vol. xviii. pl. 1244. *Scolopendrium Ceterach.* *Eng. Fl.* vol. iv. p. 315. 1513.

2. POLYPO'DIUM. Linn. POLYPODY.

Sori roundish, convex, scattered over the back of the frond, in rows, between the central rib of each lobe and the margin. Indusium none. Capsules very numerous, globular, on capillary stalks, 1-celled, 2-valved, bound by a jointed ring. Spores numerous, very minute.—Name from πολυς, many, and πους, a foot. 510.

1. P. **vulga're.** L. *Common Polypody.* Frond deeply pinnatifid, with oblong, obtuse, somewhat serrate lobes; root scaly.——*Rhizoma* cylindrical, branched, spreading; frond from six inches to a foot high, between linear and lanceolate. Perennial: bears fruit from May to November: grows on rocks, walls, dry banks, and trunks of old trees: common. *Eng. Bot.* vol. xvi. pl. 1149. *Eng. Fl.* vol. iv. p. 281. 1514.

2. P. **Phegop'teris.** L. *Pale Mountain Polypody.* Fronds pinnate, with lanceolate leaflets, united at the base, their segments obtuse, the two lowermost leaflets deflexed; veins hairy; sori near the edges of the segments.——*Rhizoma* filiform, slightly scaly: stalk long, slender, scaly, as well as the shaft and partial stalks: fronds a foot and a half high, minutely hairy, pale-green. Perennial: bears fruit in June and July: grows in the clefts of rocks: common in Scotland and Ireland, less so in England. *Eng. Bot.* vol. xxxi. pl. 2224. *Eng. Fl.* vol. iii. p. 282. 1515.

3. P. **Dryop'teris.** L. *Tender Three-branched Polypody.* Fronds ternate, each division twice pinnate, loosely spreading, the segments obtuse, somewhat crenate; rhizoma and stalk filiform; sori scattered, separate.——*Fronds* from six inches to a foot high, bright-green, smooth and delicate. Perennial: bears fruit in July: grows in shady places: common in Scotland. *Eng. Bot.* vol. ix. pl. 616. *Eng. Fl.* vol. iv. p. 283. 1516.

4. P. **calca'reum.** Sm. *Stiff Three-branched Polypody.* Fronds ternate, each division twice pinnate, erect, somewhat stiff, the segments obtuse, somewhat crenate; sori crowded, finally confluent.——*Perennial:* bears fruit in July: grows in rocky ground: rare. About Matlock-bath in Derbyshire, and in several other parts of England. *Eng. Bot.* vol. xxii. pl. 1525. *Eng. Fl.* vol. iv. p. 283. 1517.

3. WOOD'SIA. Br. WOODSIA.

Sori roundish, convex, scattered on the veins at the back of the frond. Indusium lying under the sorus, its margin deeply divided into taper-pointed segments, curved over the capsules, permanent. Capsules several, stalked, crowded, bound by a ring, and opening irregularly at the sides. Spores numerous, reniform.—Named after Mr. *Woods*, an English botanist. 511.

1. W. **hyperbo'rea.** Br. *Round-leaved Woodsia.* Frond hairy beneath, lanceolate, pinnate; leaflets cordate, pinnatifid, their seg-

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ments rounded.——*Fronds* from two to three inches high. Perennial: grows on Snowdon in Wales, Ben Lawers and Clova mountains in Scotland. *Eng. Bot.* vol. xxix. pl. 2023: *Polypodium hyperboreum. Eng. Fl.* vol. iv. p. 323. 1518.

2. **W. Ilven'sis.** Br. *Oblong-leaved Woodsia.* Fronds scaly beneath, lanceolate, pinnate; leaflets oblong, pinnatifid with oblong segments.——*Fronds* from two to three inches high. Perennial: bears fruit from July to September: grows on rocks in Wales and the north of England; Clova mountains: rare. *Eng. Fl.* vol. iv. p. 322. 1519.

4. ASPI'DIUM. Linn. SHIELD-FERN.

Sori round, convex, scattered over the back of the frond, in rows, between the central rib of each lobe and the margin. Indusium orbicular or reniform, fixed by the centre or sinus. Capsules very numerous, globular, on capillary stalks, 1-celled, 2-valved, bound by a jointed ring. Spores numerous, roundish, very minute.—Named from ασπις, a shield. 512.

* *Indusium orbicular.*

1. **A. Lonchi'tis.** L. Sw. *Rough Alpine Shield-fern.* Frond oblongo-lanceolate, pinnate; leaflets luneate, lobed above at the base, bristly-serrate, the upper ones only bearing fruit; stalk scaly.——*Fronds* from six to fifteen inches high, deep-green. Perennial: bears fruit in May and June: grows in clefts of the rocks in the Highlands of Scotland, and in Wales. *Eng. Bot.* vol. xii. pl. 797: *Polypodium Lonchitis,* Linn. *Polystichum,* L. Roth. Bab. *Eng. Fl.* vol. iv. p. 284. 1520.

** *Indusium reniform.*

2. **A. loba'tum.** Sw. *Close-leaved Prickly Shield-fern.* Frond twice pinnate; leaflets elliptical, pointed, decurrent, somewhat serrate; stalk and shaft scaly.——*Perennial:* bears fruit in July: grows on shady hedge-banks: common. *Eng. Bot.* vol. xxii. pl. 1563. *Eng. Fl.* vol. iv. p. 291. 1521.

3. **A. aculea'tum.** Sw. *Common Prickly Shield-fern.* Frond twice pinnate; leaflets ovate, pointed, stalked, somewhat luneate, fringed with prickly serratures; stalk and central ribs scaly.——*Fronds* about two feet high, lanceolate, dark-green. Perennial: bears fruit in July: grows in woods and shady places: common. *Eng. Bot.* vol. xxii. pl. 1562. *Eng. Fl.* vol. iv. p. 290. 1522.

4. **A. angula're.** Willd. *Angular-leaved Shield-fern.* Frond twice pinnate; leaflets ovate, bluntish, stalked, fringed with bristly serratures, each leaflet with a lateral lobe at the base, the lowermost elongated; stalk and ribs scaly.——*Perennial:* bears fruit in July: grows in woods and shady places. *Eng. Fl.* vol. iv. p. 291. 1523.

5. **A. Thelyp'teris.** L. Sw. *Marsh Shield-fern.* Frond pinnate, leaflets linear-lanceolate. deeply pinnatifid, slightly downy, somewhat crenate, the lower segments elongated; sori globular, finally confluent. ——*Rhizoma* creeping: fronds upwards of a foot high, deep-green. Perennial: bears fruit in July: grows in marshes and boggy meadows:

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common. *Eng. Bot.* vol. xv. pl. 1018: *Polypodium Thelypteris*, Linn. *Eng. Fl.* vol. iv. p. 285. 1524.

6. **A. Oreop'teris.** Sw. *Heath Shield-fern.* Frond pinnate; leaflets lanceolate, entire, sprinkled on the back with resinous globules; sori nearly marginal, finally confluent.——*Fronds* about a foot high, erect, lanceolate, with very short, scaly stalks. Perennial: bears fruit in July: grows in dry woods and on heaths: common, especially in Scotland. *Eng. Bot.* vol. xv. pl. 1019: *Polypodium Oreopteris.* *Eng. Fl.* vol. iv. p. 286. 1525.

7. **A. crista'tum.** Sw. *Crested Shield-fern.* Frond almost twice pinnate; leaflets decurrent, ovate, obtuse, crenate, pinnatifid, with acute terminal teeth; sori in the middle, between the central rib and margins; stalk scaly at the base.——*Fronds* two feet high, erect, narrow below, yellowish-green, with longish stalks. Perennial: bears fruit in August: grows on boggy heaths in England: rare. *Eng. Bot.* vol. xxx. pl. 2125. *Eng. Fl.* vol. iv. p. 289. 1526.

8. **A. Fi'lix-mas.** Sw. *Male Shield-fern.* Frond twice pinnate; leaflets oblong, obtuse, serrate; sori near the central rib; stalk and shaft scaly.——*Fronds* three feet high, erect, lanceolate, with short stalks. Perennial: bears fruit in June and July: grows in woods and on shady banks: common. *Eng. Bot.* vol. xxi. pl. 1458. *Eng. Fl.* vol. iv. p. 288. 1527.

9. **A. ri'gidum.** Sw. *Rigid Shield-fern.* Fronds bipinnate, lanceolate; pinnules narrow-oblong, inciso-pinnatifid, the segments broad, rounded, with 2 or 3 teeth; stalk and shaft scaly; indusium persistent.——*Fronds* lanceolate or triangular, from 1 to 2 feet long; with very numerous closely set pinnæ. Perennial: grows on Ingleborough and Wharnside. *Eng. Bot. Suppl.* pl. 2724. 1528.

10. **A. spinulo'sum.** Willd. *Prickly-toothed Shield-fern.* Frond somewhat triangular, smooth, twice pinnate; leaflets decurrent, elliptical, deeply serrate, with prickly teeth, their central rib undulated; stalk elongated, scaly at the base.——*Fronds* about a foot high, smooth, light-green. Perennial: bears fruit in June and July: grows in marshy places: found by Withering on Birmingham heath, and in Devonshire. *Eng. Bot.* vol. xxi. pl. 1460. *Eng. Fl.* vol. iv. p. 292. A variety, with the frond larger, ovate, lower primary leaflets twice or thrice pinnate, and not pinnate, is the *A. dilatatum*, Willd., *A. dumetorum*, Sm., *Broad Sharp-toothed Shield-fern*, *Eng. Bot.* vol. xxi. pl. 1461. *Eng. Fl.* vol. iv. p. 293. 1529.

5. CYSTOPTERIS. Bernh. BLADDER-FERN.

Sori round, convex, variously scattered over the back of the frond, between the central rib of each leaflet or lobe and the margin. Indusium white, round, concave, fixed by a narrow point at the side of each sorus beneath. Capsules several, globular, on short stalks, each 1-celled, 2-valved, bound by a jointed ring. Seeds numerous, roundish, very minute.—Name from κυστις, a bladder, and πτερις, a fern. 513.

1. **C. fra'gilis.** Bernh. *Brittle Bladder-fern.* Frond between oblong and lanceolate, twice pinnate; leaflets ovate, pinnatifid, the lobes toothed or serrate; partial stalks bordered; sori crowded.——

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Fronds from four to ten inches high, smooth, bright-green: stalk slender, dark and polished, with a few scales at the base. Perennial: bears fruit in June and July: grows on wet shady rocks and in stony places: common, especially in Scotland. *Eng. Bot.* vol. xxiii. pl. 1587. *Eng. Fl.* vol. iv. p. 299. 1530.

3. C. denta'ta. Hook. *Toothed Bladder-fern.* Frond between oblong and lanceolate, twice pinnate; leaflets ovate, obtuse, pinnatifid; the segments oblong, obtuse, toothed; partial stalks bordered.——*Fronds* from four to ten inches high. Perennial: bears fruit in July: grows in the clefts of rocks in Wales and the Highlands of Scotland. *Eng. Bot.* vol. xxiii. pl. 1588. *Eng. Fl.* vol. iv. p. 155. A common variety of this plant, with broader fronds, between oblong and ovate, has been described as the *C. Angustata, Deeply-cut Mountain Bladder-fern. Eng. Fl.* vol. iv. p. 301. 1531.

3. C. monta'na. Link. *Mountain Bladder-fern.* Frond triangular, short, bipinnate; pinnules of lower pinnæ pinnate; lobes pinnatifid or incised; stalk long, slender. Ben Lawers and Corrach-Uachdar, Perthshire. 1532.

6. ATHYRIUM. Roth. ATHYRIUM.

Sori oblongo-reniform, scattered over the back of the fronds. Indusium opening towards the central nerve or midrib, its margin fringed. 514.

1. A. Fi'lix-fœ'mina. L. Roth. *Female-fern Athyrium.* Frond bipinnate, lanceolate; pinnæ linear, acute, regularly pinnate; pinnules linear-oblong, pinnatifid or deeply serrate.——*Fronds* about two feet high, deep-green, delicate. Several varieties occur. Perennial: bears fruit in June and July: grows in moist shady places: common. It has been referred to the genus *Asplenium,* to which, however, it has no resemblance in habit. *Eng. Bot.* pl. 2199. 1533.

7. ASPLENIUM. Linn. SPLEENWORT.

Sori linear, straight, parallel, scattered obliquely over the back of the fronds, between the central rib of each leaflet or lobe, and the next rib or vein. Indusium membranous, continuous, straight, linear, arising from a vein, and opening at the opposite margin, towards the central rib or vein. Capsules numerous, globular, stalked, 1-celled, 2-valved, with a jointed ring.—Name from α, without, and σπλην, the spleen. 515.

1. A. Adian'tum-ni'grum. L. *Black Maidenhair Spleenwort.* Frond between lanceolate and triangular, alternately thrice pinnate; pinnæ lanceolate, pointed, deeply serrate.——*Fronds* about a foot high: stalks scaly at the base, dark-brown, shining. Perennial; bears fruit from June to October: grows on rocks, walls, and shady banks: common. *Eng. Bot.* vol. xxviii. pl. 1950. *Eng. Fl.* vol. iv. p. 310. 1534.

2. A. lanceola'tum. Huds. *Green Lance-shaped Spleenwort.* Frond lanceolate, twice pinnate; pinnules and segments deeply toothed. ——*Fronds* six or eight inches high: stalks brown at the base. Perennial: bears fruit from June to October: grows on rocks and old walls in the south of England: very rare. Jersey; near Bath,

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Cornwall, and Oxfordshire. *Eng. Bot.* vol. iv. pl. 240. *Eng. Fl.* vol. iv. p. 311. 1535.

3. **A. fonta'num.** Br. *Smooth Rock Spleenwort.* Frond between lanceolate and linear; leaflets and segments cuneiform, deeply toothed; stem and partial stalks bordered.——*Fronds* from two to six inches high, very smooth. Perennial: bears fruit from June to September: grows on rocks and old walls in England: very rare. Found by Mr. Bradney, on Amersham church, Bucks. *Eng. Bot.* vol. xxix. pl. 2024. 1536.

4. **A. Ruta-mura'ria.** L. *Wall-rue Spleenwort.* Frond alternately twice compound; pinnæ broadly rhomboidal, notched on the 2 upper edges.——*Fronds* from two to four inches high. Perennial: bears fruit from June to October: grows on rocks and old walls: common. *Eng. Bot.* vol. iii. pl. 150. *Eng. Fl.* vol. iv. p. 309. 1537.

5. **A. alternifo'lium.** Willd. *Alternate-leaved Spleenwort.* Frond pinnate; leaflets alternate, cuneiform, notched at the end.——*Fronds* from three to six inches high, with brown shining stalks. Perennial: bears fruit from June to October: grows on rocks near Kelso, Perth, and Dunkeld. Fronds having the above characters sometimes grow from the same root with others having the characters of *A. Ruta-muraria.* *Eng. Bot.* vol. xxii. pl. 2258. *Eng. Fl.* vol. iv. p. 309. 1538.

6. **A. Tricho'manes.** L. *Common Maidenhair Spleenwort.* Frond linear, pinnate; pinnæ broadly oblong, or roundish, crenate; stem and shaft coloured, shining, keeled beneath.——*Fronds* from four to eight inches high, with a brown stem and shaft, and dark-green leaflets. Perennial: bears fruit from May to December: grows on shady rocks and walls: common. *Eng. Bot.* vol. viii. pl. 576. *Eng. Fl.* vol. iv. p. 305. 1539.

7. **A. vi'ride.** Huds. *Green Maidenhair Spleenwort.* Frond linear, pinnate; pinnæ obliquely ovate, somewhat acute, widely and obtusely serrate; shaft keeled beneath.——*Fronds* about five inches long, bright-green: stalk reddish-brown: shaft green. Perennial: bears fruit in June and July: grows on rocks in the Highlands of Scotland, the north of England and Wales: common. *Eng. Bot.* vol. xxxii. pl. 2257. *Eng. Fl.* vol. iv. p. 306. 1540.

8. **A. mari'num.** L. *Sea Spleenwort.* Frond lanceolate, pinnate; pinnæ obliquely ovate, very obtuse, obtusely crenate; the shaft coloured along the back.——*Frond* about eight inches high, rather stout, firm, dark-green: stem and the back of the shaft dark-brown. Perennial: bears fruit in June and July: grows on rocks along the coast: common in Scotland. *Eng. Bot.* vol. vi. pl. 392. *Eng. Fl.* vol. iv. p. 307. 1541

9. **A. septentriona'le.** L. Hull. *Forked Spleenwort.* Fronds 2- or 3-cleft; segments linear, pointed and jagged at the summit.——*Fronds* in a dense tuft, erect, consisting of a filiform stalk, divided at the top into 2 or 3 narrow segments. Perennial: bears fruit from June to October: grows on rocks in Scotland, Wales, and north of England. *Eng. Bot.* vol. xv. pl. 1017. *Eng. Fl.* vol. iv. p. 308. *Acrostichum s.* Linn. 1542.

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8. SCOLOPEN'DRIUM. Linn. HART'S-TONGUE.

Sori linear, straight, in pairs, scattered obliquely over the back of the frond, each pair between 2 parallel veins. Indusia membranous, continuous, linear, their edges folded over the capsules, finally separating. Capsules numerous, stalked, globular, 2-valved, with a jointed ring. Spores numerous, minute. —Named from the lines of fructification resembling the feet of a *scolopendra*. 516.

1. S. vulga're. L. *Common Hart's-tongue.* Frond oblong or lanceolate, cordate at the base, smooth; stalk and shaft scaly.——*Fronds* a foot or more high, deep grass-green. Perennial: bears fruit in July: grows on rocks, walls, and banks. *Eng. Bot.* vol. xvi. pl. 1156. *Eng. Fl.* vol. iv. p. 314. 1543.

9. BLECH'NUM. Linn. HARD-FERN.

Sori linear, straight, continuous, parallel to the central rib on each side at the back of each segment of the fertile fronds. Indusium membranous, linear, continuous, arising from near the margin of the frond and opening towards the rib. Capsules numerous, stalked, globular, 2-valved, with a jointed ring. Spores numerous, minute.—Name βλῆχνον, the Greek for a fern. 517.

1. B. borea'le. L. *Northern Hard-fern.* Fronds smooth, pinnate, pectinate; leaflets linear, entire, dilated at the base.——*Fronds* about a foot high, some bearing fruit, others none: the latter narrow-lanceolate, tapering at the base, with hardly any stalk, their alternate leaflets slightly curved upwards: the former with much narrower leaflets, more dilated at the base, curved downwards, the stalk long and dark-brown. Perennial: bears fruit in July: grows in woods and heathy places: common. *Eng. Bot.* vol. xvii. pl. 1159. *Eng. Fl.* vol. iv. p. 317. 1544.

10. PTE'RIS. Linn. BRAKE.

Sori linear, continuous, close to the margin, at the back of each segment of the fertile fronds. Cover membranous, continuous, formed by the inflexed margin of the frond, opening at its inner edge. Capsules numerous, stalked, globular, 2-valved, with a jointed ring. Seeds numerous, minute.—Name πτερις, in Greek, a fern. 518.

1. P. aquili'na. L. *Common Brake.* Frond thrice divided; divisions lanceolate, their leaflets alternate, narrow-lanceolate, pinnate, the uppermost entire; segments oblong, obtuse.——*Fronds* from two to four feet high. It is used for thatching cottages, for which purpose it is better adapted than almost any of our native plants, excepting heath and broom. The ashes afford a pretty good alkali. Perennial: bears fruit in July and August: grows on heaths, and in pastures and woods: common. *Eng. Bot.* vol. xxiv. pl. 1679. *Eng. Fl.* vol. iv. p. 318. 1545.

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11. CRYPTOGRAM'MA. Br. ROCK-BRAKE.

Sori at length confluent and marginal. Indusia formed by the reflexed margins of the pinnules.—Name κρυπτος, concealed; γραμμα, writing. 519.

1. C. cris'pa. L. Br. *Curled Brake.* Barren frond alternately twice pinnate, with obovate, cut, or deeply crenate segments; fertile fronds thrice pinnate, with narrow, oblong segments.——*Fronds* from six to twelve inches high, with long slender stalks. Perennial: bears fruit from June to October: grows in stony mountainous places, in Scotland, the north of England and Wales. *Pteris crispa*, Linn. *Eng. Bot.* vol. xvii. pl. 1160. *Eng. Fl.* vol. iv. p. 319. 1546.

12. ADIAN'TUM. Linn. MAIDENHAIR.

Sori roundish, marginal, distinct, at the back of the frond, each attached to the centre of the under side of its cover, which is formed by the inflexed margin of the frond. Capsules several, stalked, globular, 2-valved, with a jointed ring. Seeds minute. —Name from αδιαυτος, that which is of a dry nature. 520.

1. A. Capillis-Veneris. L. *True Maidenhair.* Frond twice compound: leaflets alternate, cuneiform, lobed.——*Fronds* from six to twelve inches high, with slender dark-purplish stalks. Perennial: bears fruit from May to September: grows on rocks and walls: rare. *Eng. Bot.* vol. xxii. pl. 1564. *Eng. Fl.* vol. iv. p. 320. 1547.

13. TRICHO'MANES. Linn. BRISTLE-FERN.

Sori oblong or roundish, terminal, imbedded in the margin or segment of the frond. Indusium pitcher-shaped, of the same texture as the frond, and continuous with it, of 1 leaf, opening outwards, permanent. Capsules sessile, roundish, 2-valved, with a jointed ring, crowded at the base of a cylindrical common receptacle, with a capillary naked point projecting beyond the cover.—Name from θριξ, a hair. 521.

1. T. ra'dicans. Sw. *Rooting Bristle-fern.* Frond thrice pinnatifid, smooth; segments linear, entire; stalk winged.——*Fronds* 4 or 5 inches high, oblong, with decurrent deep-green segments. Perennial: bears fruit in May and June: Belbank, near Bingley, Yorkshire: Killarney and Wicklow, Ireland. *Eng. Bot.* vol. xx. pl. 1417: *Hymenophyllum alatum.* *Eng. Fl.* vol. iv. p. 325. 1548.

14. HYMENOPHYL'LUM. Sm. FILMY-FERN.

Sori roundish, terminal, imbedded in the segments of the frond. Indusium compressed, of the same texture as the frond and continuous with it, of 2 equal valves, opening outwards, permanent. Capsules several, sessile, roundish, 2-valved, with a jointed ring, crowded at the base of a permanent, cylindrical, common receptacle, with a capillary point not projecting beyond the cover.—Name from ὑμην, a membrane, and φυλλον, a leaf. 522.

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1. **H. Tunbridgen'se.** Sm. *Tunbridge Filmy-fern.* Fronds tender, pinnate, smooth, the linear segments and indusia acutely toothed; the shaft strongly winged.——*Fronds* two or three inches high, with capillary stalks. Perennial: bears fruit in May and June: grows among moss in moist rocky places in the north of England, in Ireland, and Wales. *Eng. Bot.* vol. iii. pl. 162. *Eng. Fl.* vol. iv. p. 326. 1549.

2. **H. Wilso'ni.** Hook. *Scottish Filmy-fern.* Fronds stiff, pinnate, the linear segments acutely toothed; indusia entire; the shaft slightly margined.——*Perennial:* bears fruit in May and June: grows among moss in moist rocky places. North of England and Wales: common in Scotland and Ireland. *Brit. Fl.* p. 448. 1550.

Order II. OSMUNDACEÆ. *Vernation circinate. Rachis woody. Capsules regularly 2-valved, stalked, in clusters at the extremity of the frond or margining its terminal segments.*

15. OSMUN'DA. Linn. FLOWERING-FERN.

Capsules clustered, distinct, stalked, nearly globular, 1-celled, with 2 equal valves. Indusium none. Spores numerous, minute.—Name of Saxon origin: *Osmunder* was one of the names of Thor. 523.

1. **O. rega'lis.** L. *Osmund Royal. Flowering-fern.* Fronds twice pinnate; leaflets oblong, nearly entire, dilated at the base; clusters panicled, terminal.——*Frond* from two to four, sometimes to six or even ten feet high: the most beautiful of our ferns. Perennial: bears fruit in June and July: grows in watery places: not common: frequent in the outer Hebrides and south of Ireland. *Eng. Bot.* vol. iii. pl. 209. *Eng. Fl.* vol. iv. p. 327. 1551.

Order III. OPHIOGLOSSACEÆ. *Vernation straight. Rachis herbaceous. Capsules sessile, arranged on the margin of a contracted frond.*

16. BOTRY'CHIUM. Sw. MOONWORT.

Capsules distinct, sessile, on the upper side of a branched, flattened, common stalk, nearly globular, 1-celled, with 2 equal valves. Indusium none. Spores numerous, minute.—Name from βοτρυς, a bunch of grapes. 524.

1. **B. Luna'ria.** L. *Common Moonwort.* Stalk with a single pinnate leaf; leaflets reniform or lunulate, entire.——*From* two to five inches high: stalk sheathed at the base, bearing a leaf about the middle, and terminating in a twice compound spike. Perennial: bears fruit in July and August: grows in dry pastures among short grass: frequent. *Eng. Bot.* vol. v. pl. 318: *Osmunda Lunaria. Eng. Fl.* vol. iv. p. 328. 1552.

17. OPHIOGLOS'SUM. Linn. ADDER'S-TONGUE.

Capsules roundish, 1-celled, 2-valved, connate, in 2 opposite

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rows, upon a simple, linear, somewhat compressed spike. In dusium none. Spores numerous, minute.—Name from ὀφις, a snake, and γλωσσα, the tongue. 525.

1. O. vulga'tum. L. *Common Adder's-tongue.* Leaf ovate, about as long as the spike.——*Stem* slender, six or eight inches high, bearing a simple leaf, and terminating in a slender spike, which would have some resemblance to the tongue of a snake, were the latter not forked. Perennial: bears fruit in June and July: grows in moist pastures and in woods: frequent. *Eng. Bot.* vol. ii. pl. 108. *Eng. Fl.* vol. iv. p. 330. 1553.

Order IV. LYCOPODIACEÆ. *Capsules axillar or spiked, with from* 1 *to* 3 *cells, and from* 2 *to* 3 *valves. Spores numerous, very minute.*

18. LYCOPO'DIUM. Linn. CLUB-MOSS.

Capsules axillar, solitary, sessile, roundish, 1-celled; some 2-valved, including a powdery substance, others 3-valved, containing a few large grains or spores.—Name from λυκος, a wolf, and πους, a foot. 526.

1. L. clava'tum. L. *Common Club-moss.* Stem creeping, branched; branches ascending; leaves scattered, incurved, hair-pointed; spikes in pairs, cylindrical, stalked, with ovate, membranous leaves.——*Stems* several feet long: leaves crowded, narrow, and lanceolate. The spores explode when kindled, and are said to be used for artificial lightning on the stage. Perennial: bears fruit in July and August: grows on heaths: common. *Eng. Bot.* vol. iv. pl. 224. *Eng. Fl.* vol. iv. p. 331. 1554.

2. L. inunda'tum. L. *Marsh Club-moss.* Stem creeping, slightly branched; leaves scattered, narrow, lanceolate, pointless, entire; spikes solitary.——*Stems* three or four inches long. Perennial: bears fruit in June and July: grows in wet heathy places: rare. *Eng. Bot.* vol. iv. pl. 239. *Eng. Fl.* vol. iv. p. 332. 1555.

3. L. selagino'ides. L. *Prickly Club-moss.* Stems creeping; branches ascending, simple; leaves scattered, lanceolate, fringed; spikes terminal, solitary, with broader leaves.——*Stems* short, the branches rising to the height of from two to four inches. Perennial: bears fruit in August: grows in watery places, in mountainous situations: frequent. *Eng. Bot.* vol. xvi. pl. 1148. *Eng. Fl.* vol. iv. p. 332. 1556.

4. L. Sela'go. L. *Fir Club-moss.* Stems erect, forked, the branches level at the top; leaves in 8 rows, uniform, narrow-lanceolate, acute, entire.——*Stem* from three to six inches high, forked from the base four times. Perennial: bears fruit in July and August: grows near the summit of high mountains: common. *Eng. Bot.* vol. iv. pl. 233. *Eng. Fl.* vol. iv. p. 333. 1557.

5. L. annoti'num. L. *Interrupted Club-moss.* Stems decumbent at the base; branches ascending, forked, leaves in 5 rows, narrow-

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lanceolate, acute, minutely serrate; spikes cylindrical, solitary, sessile.——From six to eight inches high. Perennial: bears fruit in July and August: grows on the mountains of Scotland and Wales. *Eng. Bot.* vol. xxiv. pl. 1727. *Eng. Fl.* vol. iv. p. 334. 1558.

6. L. alp'inum. L. *Savin-leaved Club-moss.* Stems prostrate; branches in tufts, erect, forked, level-topped; leaves acute, keeled, imbricated in 4 rows; spikes terminal, solitary, sessile, cylindrical, their leaves broadly lanceolate, flat.——Perennial: bears fruit in August: grows on the higher mountains of Scotland, Wales, and the north of England: frequent. *Eng. Bot.* vol. iv. pl. 234. *Eng. Fl.* vol. iv. p. 335. 1559.

Order V. EQUISETACEÆ. *Fructification terminal, spiked, consisting of many peltate, angular, stalked scales, which bear at the back from four to seven oblong membranous cells, each containing numerous minute spores, encompassed by four filaments, clavate at their extremities.*

19. EQUISETUM. Linn. HORSE-TAIL.

Spike oblong, of many peltate, stalked scales, arranged on a common stalk. Scales angular, bearing at the back from 4 to 7 oblong membranous cells, parallel to each other, finally bursting into 2 equal valves. Spores globular, very minute, having 4 spiral filaments attached to their base, which terminate each in a flat appendage.—Name from *equus*, a horse, and *seta*, a hair. 527.

1. E. arven'se. L. *Corn Horse-tail.* Sterile stems decumbent at the base, with undivided, angular, roughish, ascending branches; fertile stems erect, destitute of branches, their sheaths distant, deeply toothed.——*Fertile* stems about eight inches high, appearing before the sterile ones, which are from one to two feet high. Perennial: March and April: grows in fields and meadows: common. *Eng. Bot.* vol. xxix. pl. 2020. *Eng. Fl.* vol. iv. p. 337. 1560.

2. E. umbro'sum. Willd. *Blunt-topped Horse-tail.* Sterile stems striate, rough with prominent points, with undivided, angular, rough branches; fertile stems erect, destitute of branches, their sheaths approximated, with narrow, tapering teeth.——*Perennial:* April. Found by Mr. T. Drummond, in Forfarshire. Hooker. *Brit. Fl.* p. 451. *Eng. Bot. Suppl.* pl. 2777. 1561.

3. E. fluvia'tile. L. *Great Water Horse-tail.* Sterile stems with very numerous undivided, angular, roughish branches: fertile stems unbranched, their sheaths crowded, deeply toothed.——*Fertile* stems from 1 to 2; sterile ones from two to four feet high. Perennial: April: grows at the edges of rivers and lakes: frequent. *Eng. Bot.* vol. xxix. pl. 2022. *Eng. Fl.* vol. iv. p. 337. 1562.

4. E. sylva'ticum. L. *Wood Horse-tail.* Sterile and fertile stems with compound, 4-sided, smooth branches, curved downwards.——*Stems* about a foot high, erect, with short branches, each whorl

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with a pale-brown torn sheath above it: spike oblong. Perennial: April and May: grows in moist woods: frequent. *Eng. Bot.* vol. xxvii. pl. 1874. *Eng. Fl.* vol. iv. p. 336. 1563.

5. **E. limo'sum.** L. *Smooth Naked Horse-tail.* Sterile and fertile stems naked, or branched at the upper part; the branches about 15 in each whorl, simple, smooth, ascending.——*Stems* from two to three feet high, smooth to the touch, furrowed, sometimes branchless, more frequently branched: spike small, oblong. Perennial: June and July: grows in marshes and at the edges of lakes and rivers: frequent. *Eng. Bot.* vol. xiii. pl. 922. *Eng. Fl.* vol. iv. p. 399. 1564.

6. **E. palus'tre.** L. *Marsh Horse-tail.* Sterile and fertile stems deeply furrowed, branched throughout; branches about 10 in each whorl, minutely roughish, erect.——*Stems* about two feet high: spike cylindrical. Perennial: June and July: grows in watery places: frequent. *Eng. Bot.* vol. xxix. pl. 2021. *Eng. Fl.* vol. iv. p. 338. 1565.

7. **E. Macka'ii.** Newm. *Mackay's Horse-tail.* Stems very long, branched at the base, very rough, furrowed; branches elongated, flexuose, simple or irregularly branched toward the end; sheaths at length wholly black, with from 6 to 12 narrow subulate teeth. ——*Perennial:* July: north of Ireland, and by the river Dee, in Kincardineshire. Newm. *Brit. Ferns,* 15. 1566.

8. **E. hyema'le.** L. *Greater Rough Horse-tail.* Sterile and fertile stems generally branchless, sometimes branched at the base, very rough, furrowed; sheaths whitish, black at the top and bottom, their teeth pointed, deciduous.——*Stems* from one to two feet high: spike elliptical. Perennial: July and August: grows in boggy woods: not common. The cuticle of all the Equiseta contains siliceous earth, on which account they are used for polishing wood and metals. This species is more eminently qualified for that purpose, and is largely imported from Holland. *Eng. Bot.* vol. xiii. pl. 915. *Eng. Fl.* vol. iv. p. 339. 1567.

9. **E. variega'tum.** Schleich. *Variegated Rough Horse-tail.* Stems branchless, very rough, branched at the base; sheaths black, with white membranous, lanceolate teeth.——*Stems* about eight inches high, ascending, furrowed. Perennial: July and August: found by G. Don on the sands of Barry, Angus-shire, and by Mr. W. Wilson in Lancashire, and in Ireland; also by the river Dee. *Eng. Bot.* vol. xxviii. pl. 1987. *Eng. Fl.* vol. iv. p. 341. 1568.

Order VI. MARSILEACEÆ. *Aquatic Plants. Capsules destitute of ring, and placed within involucres situated near the root.*

20. ISO'ETES. Linn. QUILL-WORT.

Involucres formed by the swollen bases of the leaves. Spores of two kinds, inserted upon many filiform receptacles.—Name from ἴσος equal, and ἔτος, the year. 523.

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1. I. lacus'tris. L. *European Quill-wort.* Leaves subulate, obtusely 4-angular, of 4 internally jointed tubes.——*Grows* immersed in lakes, in Wales, the north of England, and Scotland. 1569.

21. PILULA'RIA. Linn. PILL-WORT.

Involucres globose, coriaceous, 4-celled; each cell containing two kinds of bodies, the one a membrane inclosing many minute grains, the other a solitary grain.—Name from *pilula*, a little pill. 529.

1. P. globuli'fera. L. *Creeping Pill-wort.*——*Stems* long, entangled, creeping. Leaves setaceous, erect, four or five inches long. Involucre globose, brown, externally downy. Margins of lakes and pools. *Eng. Bot.* pl. 521. 1570.

Besides the Ferns, of which the species are briefly described above, there are in this class the Mosses, Lichens, Algæ, Fungi, and other groups or orders, a description of which will be found in Hooker's *Eng. Flora*, vol. ii.

Of the PHÆNOGAMOUS PLANTS, or those belonging to the first twenty-three classes of the Linnæan system, 1512 species, arranged in 508 genera, have been enumerated and characterized in the preceding pages.

Of the CRYPTOGAMOUS PLANTS, or those forming the twenty-fourth or last class, there have been briefly described only 58 species, disposed in 21 genera.

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ARRANGEMENT OF THE GENERA OF BRITISH PLANTS,

ACCORDING TO

THE NATURAL METHOD.

In attempting to arrange plants agreeably to their natural affinities, various methods have been devised. That here used, although partly artificial, will answer the purpose of grouping the British genera into Families, or, as these groups are now frequently called, Orders. It not being consistent with the plan of this work to present details, the following Table will be found to be merely the outline of an arrangement.

Plants may be primarily divided into two series: 1. VASCULAR, or FLOWERING PLANTS; 2. CELLULAR, or FLOWERLESS. These Sections of the vegetable kingdom may be subdivided into Classes, Orders, and Genera. Thus:

SERIES I. VASCULAR PLANTS.

Also named FLOWERING Plants, and PHÆNOGAMOUS Plants.

Plants producing flowers and seeds, and composed of cellular tissue, woody fibre, and spiral vessels.

Class I. DICOTYLEDONOUS PLANTS.

Stem formed of pith, wood, and bark: the woody part furnished with medullary rays, and increasing by the addition of layers externally; whence these plants are also named EXOGENOUS; cotyledons 2 or more, opposite.

Section I. THALAMIFLORÆ.

Petals distinct, and, with the stamens, hypogynous (inserted beneath the ovary).

Order I. RANUNCULACEÆ.

Sepals 5, 3, or 6. Petals 5, or more, or none. Stamens numerous, anthers adnate, opening longitudinally. Carpels numerous, distinct, or united. Seeds erect or pendulous.

CLEMATIDEÆ.

1. Clematis, 249, 257.

ANEMONEÆ.

2. Thalictrum, 249, 258.
3. Anemone, 249, 257.
4. Adonis, 249, 258.

RANUNCULEÆ.

5. Myosurus, 122, 177.
6. Ranunculus, 249, 259.

HELLEBOREÆ.

7. Caltha, 249, 263.
8. Trollius, 249,262.
9. Helleborus, 249, 262.
10. Acquilegia, 248, 256.
11. Delphinium, 248, 255.
12. Aconitum, 248, 256.

PÆONIEÆ.

13. Actæa, 248, 249.
14. Pæonia, 248, 255.

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Order II. BERBERIDEÆ.

Sepals 3, 4, or 6, in two rows. Petals the same number. Stamens opposite to the petals, glandular at the base, anthers opening by valves. Ovary 1-celled, seeds attached to the bottom.

1. Berberis, 178, 180.
2. Epimedium, 100, 108.

Order III. NYMPHÆACEÆ.

Sepals 5, 4, or 6, often gradually passing into the petals, and these into the numerous stamens, which are inserted into a fleshy disk, surrounding the ovaries. Stigma compound, peltate, radiate. Ovary many-celled, many-seeded.

1. Nymphæa, 248, 254.
2. Nuphar, 248, 254.

Order IV. PAPAVERACEÆ.

Sepals 2. Corolla regular, of 4 petals. Stamens numerous, free. Ovary free; stigma lobed or radiate. Capsule 1-celled, many-seeded.

1. Papaver, 248, 250.
2. Meconopsis, 248, 252.
3. Glaucium, 248, 250.
4. Chelidonium, 248, 249.

Order V. FUMARIACEÆ.

Sepals 2. Corolla irregular, of 4 petals, 1 or both of the 2 outer spurred or saccate at the base. Stamens 6, in 2 parcels. Ovary free, 1-celled; style filiform; stigma lobed.

1. Corydalis, 310, 312.
2. Fumaria, 310, 312.

Order VI. CRUCIFERÆ.

Sepals 4. Corolla cruciform. Stamens tetradynamous, the 2 shorter opposite the lateral petals. Ovary free, stigmas 2. Fruit a siliqua or a silicula.

SILICULOSÆ.

1. Subularia, 288, 289.
2. Draba, 288, 289.
3. Alyssum, 288, 290.
4. Koniga, 288, 291.
5. Camelina, 288, 291.
6. Hutchinsia, 288, 291.
7. Lepidium, 288, 292.
8. Thlaspi, 288, 292.
9. Capsella, 288, 293.
10. Teesdalia, 288, 293.
11. Iberis, 288, 294.
12. Cochlearia, 288, 294.
13. Armoracia, 288, 295.
14. Senebiera, 288, 295.
15. Crambe, 288, 295.
16. Cakile, 288, 296.

SILIQUOSÆ.

17. Dentaria, 288, 296.
18. Cardamine, 288, 296.
19. Arabis, 288, 297.
20. Turritis, 288, 298.
21. Nasturtium, 289, 298.
22. Sisymbrium, 296, 299.
23. Alliaria, 289, 300.
24. Barbarea, 289, 300.
25. Erysimum, 289, 301.
26. Hesperis, 289, 301.
27. Cheiranthus, 289, 301.
28. Matthiola, 289, 302.
29. Brassica, 289, 302.
30. Sinapis, 289, 303.
31. Diplotaxis, 289, 304.
32. Raphanus, 289, 304.

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Order VII. RESEDACEÆ.

Sepals 4, 5, or 6, persistent. Corolla irregular, petals 4 or 6, lacerated. Stamens 10 to 24, inserted upon a glandular irregular disk. Ovary sessile, 3-lobed, 1-celled, with 3 parietal placentas. Fruit opening at an early stage at the end.

1. Reseda, 230, 232.

Order VIII. CISTINEÆ.

Sepals 5, unequal, the inner 3 with twisted æstivation. Petals 5, deciduous, corrugated, and twisted. Stamens numerous. Ovary 1-celled, or many-celled; style filiform; stigma simple. Capsule valvate. Seeds numerous.

1. Helianthemum, 248, 252.

Order IX. VIOLACEÆ.

Sepals 5, often extended at the base. Petals 5. Stamens 5, with dilated filaments, and crested anthers. Ovary 1-celled, with 3 parietal placentæ; style with a hooded stigma. Capsule of 3 valves.

1. Viola, 118, 142.

Order X. DROSERACEÆ.

Sepals 5, equal. Petals 5, regular. Stamens 5 or 10, free. Styles 3 or 5. Ovary free. Capsules with 3 or 5 valves.

1. Drosera, 121, 176.

Order XI. POLYGALEÆ.

Sepals 5, the 2 inner larger and petaloid. Petals generally 3. Stamens with their filaments united below, but separating above into 2 parcels. Anthers 1-celled, opening by a pore at the tip. Capsule 1-celled or 3-celled, with placentas in the axis. Seeds pendulous.

1. Polygala, 310, 313.

Order XII. FRANKENIACEÆ.

Sepals 4 or 5, united into a furrowed tube below. Petals 5, clawed, with appendages at the base of the limb. Stamens 5 or more, free, 2-celled. Capsule 1-celled, 3-valved, with 3 parietal placentæ. Seeds numerous, minute.

1. Frankenia, 178, 179.

Order XIII. TAMARISCINEÆ.

Calyx 5-parted, persistent. Petals 4 or 5, regular, withering, imbricate. Stamens as many as the petals, or double in number. Capsule 1-celled, 3-valved, many-seeded. Seeds comose.

1. Tamarix, 121, 173.

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Order XIV. ELATINE.

Sepals 3 or 5. Petals 3 or 5, sessile. Stamens as many as the petals, or double their number, free. Ovary 3-celled, or 5-celled; styles 3 or 5; stigmas capitate. Capsules with 3 or 5 cells, and as many valves. Seeds numerous.

1. Elatine, 199, 208.

Order XV. CARYOPHYLLEÆ.

Sepals 5 or 4, distinct or united. Petals 5 or 4, clawed. Stamens 10 or 9, inserted upon a fleshy disk or ring; anthers opening longitudinally. Ovary often stalked; stigmas from 2 to 5, filiform. Capsule 1-celled, or with from 2 to 5 imperfect cells, opening by twice as many teeth as stigmas. Placenta central. Seeds generally numerous.

1. Dianthus, 209, 217.
2. Saponaria, 209, 217.
3. Silene, 210, 218.
4. Lychnis, 210, 227.
5. Agrostemma, 210, 226.
6. Sagina, 101, 111.
7. Spergula, 210, 229.
8. Mœnchia, 101, 112.
9. Holosteum, 58, 99.
10. Stellaria, 210, 220.
11. Honckenya, 210, 221.
12. Arenaria, 210, 222.
13. Cerastium, 210, 228.
14. Malachium, 210, 229.
15. Cherleria, 210, 223.

Order XVI. LINEÆ.

Sepals 3 to 5, persistent. Petals 3 to 5, twisted, clawed, caducous. Stamens as many as the petals, united at the base into a hypogynous ring, with intermediate teeth. Ovary with about as many cells as sepals, and as many styles; stigmas capitate. Capsule globose, generally tipped with the hardened base of the styles, and having 4 or 5 cells, each subdivided. Seeds one in each division, pendulous.

1. Linum, 121, 175.
2. Radiola, 101, 112.

Order XVII. MALVACEÆ.

Calyx 5-cleft, involucrate. Corolla regular, of 5 twisted petals. Stamens numerous, monadelphous; anthers 1-celled, reniform, opening transversely. Ovary of several carpels, united round a common axis. Carpels with 1 or several seeds.

1. Lavatera, 305, 310.
2. Malva, 305, 309.
3. Althæa, 305, 309.

Order XVIII. TILIACEÆ.

Sepals 4 or 5, valvate. Petals 4 or 5, sometimes none. Stamens generally numerous; anthers 2-celled, opening longitudinally. Glands 4 or 5 at the base of the petals. Ovary with from 1 to 10 cells. Style 1. Capsule with 1 or many seeds in each cell.

1. Tilia, 248, 253.

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Order XIX. HYPERICINEÆ.

Sepals 4 or 5, often coherent, persistent, with glandular dots, imbricate. Petals 4 or 5, twisted. Stamens numerous, polyadelphous. Styles several. Fruit a capsule or berry, with many cells, and many valves. Seeds numerous, minute, on a central receptacle, or on the incurved margins of the valves.

1. Hypericum, 328, 328.

Order XX. ACERINEÆ.

Calyx 4-, 5-, or 9-parted, imbricate. Petals of the same number, inserted round a hypogynous disk. Stamens generally 8, inserted on the disk. Ovary 2-lobed, 2-celled; style 1; stigmas 2. Fruit winged, separating into 2 1-celled carpels, each with 1 or 2 seeds.

1. Acer, 198, 199.

Order XXI. GERANIACEÆ.

Sepals 5, persistent, imbricate. Petals 5, clawed, twisted. Stamens generally monadelphous, 2 or 3 times as many as the petals, some often abortive. Fruit of 5 carpels, each having an indurated style adherent to the axis, from which it finally separates, carrying with it the membranous pericarp.

1. Geranium, 305, 305. 2. Erodium, 305, 305.

Order XXII. BALSAMINEÆ.

Sepals 5, irregular, deciduous, the lower spurred. Petals 4, irregular, united in pairs. Stamens 5, anthers 2-celled, opening at the tip by a longitudinal fissure. Ovary 5-celled. Fruit with 5 elastic valves. Seeds solitary or numerous, pendulous.

1. Impatiens, 116, 142.

Order XXIII. OXALIDEÆ.

Sepals 5, persistent, imbricate. Petals 5, equal, twisted. Stamens 10, unequal, monadelphous; anthers 2-celled. Ovary 5-celled; styles 5. Capsule with 5 or 10 valves. Seeds several.

1. Oxalis, 210, 226.

Section II. CALYCIFLORÆ.

Petals distinct, and, with the stamens, perigynous (inserted into the calyx).

Order XXIV. CELASTRINEÆ.

Sepals 4 or 5, imbricate. Petals 4 or 5, inserted into a fleshy disk. Stamens alternate with the petals. Ovary sunk in the disk, with 3 or 4 cells, the cells with 1 or 2 erect seeds.

1. Staphylea, 121, 172. 2. Euonymus, 118, 141.

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Order XXV. RHAMNEÆ.

Calyx 4- or 5-cleft, valvate. Petals 4 or 5, inserted into the throat of the calyx. Stamens 4 or 5, opposite to the petals. Ovary wholly or in part superior, with 2 or 4 cells, and surrounded by a glandular disk. Seeds solitary, erect.

1. Rhamnus, 118, 141.

Order XXVI. LEGUMINOSEÆ.

Calyx of 4 or 5 sepals, more or less united. Corolla papilionaceous (in all the British genera), inserted into the base of the calyx, the odd petal superior. Stamens 10, monadelphous or diadelphous. Ovary free, 1-celled. Fruit a legume.

LOTEÆ.
1. Ulex, 311, 314.
2. Genista, 311, 313.
3. Sarothamnus, 311, 314.
4. Ononis, 311, 315.
5. Anthyllis, 311, 315.
6. Medicago, 311, 323.
7. Melilotus, 311, 324.
8. Trifolium, 311, 324.
9. Astragalus, 311, 320.
10. Oxytropis, 311, 321.
11. Lotus, 311, 327.

VICIEÆ.
12. Vicia, 311, 318.
13. Lathyrus, 311, 317.
14. Orobus, 311, 316.

HEDYSAREÆ.
15. Ornithopus, 311, 322.
16. Hippocrepis, 311, 322.
17. Hedysarum, 311, 321.

Order XXVII. ROSACEÆ.

Calyx 4- or 5-parted, lined below with a disk. Petals 5, equal, inserted into the calyx. Stamens generally numerous, anthers 1-celled, opening longitudinally. Carpels many, rarely solitary, 2-celled, with 1, 2, or more seeds; styles simple, often lateral.

AMYGDALEÆ.
1. Prunus, 233, 234.

SPIRÆA.
2. Spiræa, 233, 237.

DRYADEÆ.
3. Dryas, 234, 247.
4. Geum, 234, 246.
5. Sanguisorba, 101, 109.
6. Poterium, 376, 396.
7. Agrimonia, 230, 231.
8. Alchemilla, 101, 110.
9. Sibbaldia, 121, 176.
10. Potentilla, 233, 234.
11. Comarum, 234, 247.
12. Fragaria, 233, 243.
13. Rubus, 233, 241.

ROSEÆ.
14. Rosa, 233, 238.

POMEÆ.
15. Mespilus, 233, 235.
16. Crategus, 233, 235.
17. Cotoneaster, 233, 235.
18. Pyrus, 233, 236.

Order XXVIII. LYTHRARIEÆ.

Calyx tubular, lobed. Petals deciduous, between the lobes of the calyx. Stamens equalling the petals in number, or 2, 3, or 4 times as many, and inserted into the tube of the calyx. Ovary free, 3 or 4-celled, with a central placenta, and numerous seeds. Capsule membranous, usually 1-celled.

1. Lythrum, 230, 231.
2. Peplis, 178, 180.

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Order XXIX. ONAGRARIÆ.

Calyx tubular, adnate to the ovary entirely or in part, 2 or 4-lobed. Petals as many as the lobes of the calyx, twisted, inserted at the top of the tube. Stamens 2, 4, or 8, inserted with the petals. Ovary of several cells, with a central placenta; style 1, filiform; stigma capitate or lobed. Fruit a berry or capsule with 4 cells.

1. Epilobium, 198, 199.
2. Œnothera, 198, 201.
3. Isnardia, 101, 109.
4. Circæa, 44, 52.

Order XXX. HALORAGEÆ.

Calyx tubular, adnate with the ovary, its limb minute. Petals minute, from the mouth of the calyx, or none. Stamens inserted with the petals, equal in number to its lobes, or twice as many. Ovary with one or more cells. Fruit dry, indehiscent, with one or several cells. Seed solitary, pendulous.

1. Myriophyllum, 376, 395.
2. Callitriche, 375, 380.
3. Hippuris, 43, 44.

Order XXXI. CERATOPHYLLEÆ.

Flowers monœcious. Perianth single, free, in many divisions. Anthers from 12 to 20, 2-celled, 2-pointed. Ovary free, 1-celled, with 1 pendulous seed.

1. Ceratophyllum, 376, 394.

Order XXXII. CUCURBITACEÆ.

Flowers often monœcious or diœcious. Calyx 5-toothed, its tube adnate to the ovary. Corolla 5-cleft, often scarcely distinguishable from the calyx, frequently reticulated. Stamens 5, often more or less coherent; anthers tortuous. Ovary with from 3 to 5 cells, or 1-celled, with parietal placentas; style short; stigmas lobed, thick. Fruit fleshy; seeds flat, in a juicy arillus.

1. Bryonia, 370, 394.

Order XXXIII. PORTULACEÆ.

Sepals 2, rarely 3 or 5, coherent at the base, imbricate. Petals generally 5, from the base of the calyx. Stamens numerous, inserted along with the petals, filaments distinct. Ovary 1-celled; style 1 or none; stigmas several. Capsule opening transversely by 3 valves, with a central placenta.

1. Montia, 58, 99.

Order XXXIV. PARONYCHIEÆ.

Sepals 5, rarely 3 or 4, coherent at the base. Petals minute, or none. Stamens indefinite, opposite the sepals; filaments generally distinct. Ovary free; styles 2 or 3. Fruit dry, 3-valved, or indehiscent, with a central placenta.

1. Corrigiola, 121, 172.
2. Herniaria, 119, 151.
3. Illecebrum, 118, 145.
4. Polycarpon, 58, 99.
5. Scleranthus, 209, 216.

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Order XXXV. CRASSULACEÆ.

Sepals from 3 to 20, united at the base. Petals the same number, regular, generally free, inserted at the base of the calyx. Stamens inserted with the petals, and the same in number, or twice as many. A scale at the base of each ovary. Ovaries equal in number to the petals. 1-celled, free, or slightly connected. Fruit of several follicles opening along the inner side.

1. Tillæa, 101, 113.
2. Cotyledon, 210, 225.
3. Sempervivum, 230, 232.
4. Sedum, 210, 224.

Order XXXVI. GROSSULACEÆ.

Calyx 4- or 5-cleft, regular. Petals 4 or 5, small, attached to the mouth of the tube, and alternating with the stamens. Ovary 1-celled, with 2 opposite parietal placentas; style 2- or 4-cleft. Berry 1-celled, many-seeded.

1. Ribes, 118, 144.

Order XXXVII. SAXIFRAGEÆ.

Calyx 4- or 5-cleft, superior or inferior. Petals 4 or 5, rarely none. Stamens from 5 to 10. Ovary of 2 coherent carpels; styles 2, persistent. Capsule 2-valved. Seeds numerous.

1. Saxifraga, 209, 214.
2. Chrysosplenium, 209, 213.

Order XXXVIII. UMBELLIFERÆ.

Calyx adherent to the ovary, with 5 small teeth. Petals 5, usually inflexed at the point. Stamens 5, inserted with the petals on the mouth of the calyx. Ovary 2-celled, crowned by 2 fleshy disks; styles 2. Fruit of 2 carpels, adhering to a common axis, from which they separate when ripe. Seeds solitary, pendulous.

HYDROCOTYLEÆ.

1. Hydrocotyle, 119, 153.

SANICULEÆ.

2. Sanicula, 119, 153.
3. Eryngium, 119, 152.

AMMINEÆ.

4. Cicuta, 120, 163.
5. Apium, 121, 168.
6. Helosciadium, 120, 160.
7. Petroselinum, 120, 161.
8. Trivia, 121, 168.
9. Sison, 119, 161.
10. Ægopodium, 121, 171.
11. Carum, 121, 170.
12. Bunium, 119, 151.
13. Pimpinella, 121, 169.
14. Sium, 119, 151.
15. Bupleurum, 120, 161.

SESELINEÆ.

16. Œnanthe, 119, 155.
17. Æthusa, 120, 163.
18. Fœniculum, 120, 167.
19. Ligusticum, 119, 151.
20. Silaus, 119, 157.
21. Crithmum, 119, 158.

ANGELICEÆ.

22. Angelica, 120, 164.
23. Pastinaca, 121, 169.

PEUCEDANEÆ.

24. Peucedanum, 119, 156.
25. Heracleum, 119, 154.
26. Pastinaca, 121, 169.
27. Tordylium, 120, 163.

DAUCINEÆ.

28. Daucus, 119, 154.

CAUCALINEÆ.

29. Caucalis, 119, 153.
30. Torilis, 120, 164.

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SCANDICINEÆ.

31. Scandix, 120, 167.
32. Anthriscus, 120, 165.
33. Chærophyllum, 120, 166.
34. Myrrhis, 120, 166.

SMYRNEÆ.

35. Conium, 120, 161.
36. Physospermum, 121, 169.
37. Smyrnium, 121, 168.

Order XXXIX. ARALIACEÆ.

Calyx with the tube adherent to the ovary, 4- or 5-toothed. Petals 4, 5, 10, or none. Stamens equal in number to the petals and alternate with them, or twice as many, on the margin of an epigynous disk. Ovary with 2 or more cells, styles as many as the cells. Fruit fleshy or dry, of several cells, each with 1 pendulous seed.

1. Adoxa, 199, 207.
2. Hedera, 118, 145.

Order XL. CORNEÆ.

Sepals 4, more or less united. Petals 4, broad at the base, inserted at the top of the calyx-tube. Stamens 4, inserted with the petals. Ovary 2-celled; style filiform. Fruit a drupe, with thick hard endocarp. Seeds solitary, pendulous.

1. Cornus, 100, 108.

Section III. COROLLIFLORÆ.

Corolla monopetalous, bearing the Stamens.

Order XLI. LORANTHACEÆ.

Calyx adnate to the ovary, with two bracts at the base, its limb entire or lobed. Corolla of 4 or 8 united petals. Stamens as many as the petals, and opposite to them. Ovary 1-celled, with 1 erect ovule; style filiform, or none; stigma capitate. Fruit succulent.

1. Viscum, 401, 413.

Order XLII. CAPRIFOLIACEÆ.

Calyx adnate to the ovary, usually bracteated at the base, its limb 4- or 5-lobed. Corolla 4- or 5-cleft, regular or irregular. Stamens 4 or 5, alternate with the lobes of the corolla. Ovary with from 3 to 5 cells, each cell with 1 or more pendulous ovules; stigmas from 1 to 3. Fruit usually a berry, 1- or many-celled.

1. Sambucus, 121, 172.
2. Viburnum, 121, 171.
3. Lonicera, 118, 140.
4. Linnæa, 265, 284.

Order XLIII. RUBIACEÆ.

Calyx adnate to the ovary, entire, or with 4, 5, or 6 teeth. Corolla regular, with 4, 5, or 6 lobes. Stamens 4 or 5, alternate with the lobes of the corolla. Ovary with 1 or 2 cells and solitary erect ovules; style often bifid, with 2 stigmas. Fruit indehiscent, with 2 cells, each with one seed.

1. Sherardia, 100, 103.
2. Asperula, 100, 103.
3. Galium, 100, 103.
4. Rubia, 100, 106.

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Order XLIV. VALERIANEÆ.

Calyx adnate to the ovary, with the limb toothed or furnished with downy filaments. Corolla tubular, with 3. 4, or 5 lobes, irregular, often spurred at the base. Stamens from 1 to 5. Ovary with 1 perfect cell, and often 2 or 3 imperfect. Fruit dry, indehiscent, crowned by the calyx.

1. Valeriana, 54, 58. 2. Centranthus, 54, 58.
3. Fedia, 54, 59.

Order XLV. DIPSACEÆ.

Calyx adnate to the ovary, surrounded by an involucre, closely investing the ripe fruit. Corolla with 4 or 5 unequal lobes. Stamens 4, with their filaments free. Ovary 1-celled; stigma simple. Fruit crowned by the calyx.

1. Dipsacus, 100, 101. 2. Knautia, 100, 102.
3. Scabiosa, 100, 102.

Order XLVI. COMPOSITÆ.

Calyx adnate to the ovary, its limb forming a toothed, bristly, or feathery pappus. Corolla tubular or ligulate. Stamens 5, with coherent anthers. Ovary 1; style filiform, with 2 stigmas. Fruit an achenium, crowned by the pappus.

CORYMBIFERÆ.

1. Eupatorium, 332, 348.
2. Petasites, 332, 352.
3. Tussilago, 332, 352.
4. Senecio, 332, 352.
5. Cineraria, 332, 355.
6. Doronicum, 332, 356.
7. Chrysocoma, 332, 349.
8. Aster, 332, 356.
9. Erigeron, 332, 355.
10. Solidago, 333, 358.
11. Inula, 332, 357.
12. Pulicaria, 332, 357.
13. Gnaphalium, 332, 351.
14. Filago, 332, 352.
15. Antennaria, 332, 352.
16. Bellis, 333, 358.
17. Chrysanthemum, 333, 359.
18. Pyrethrum, 333, 361.
19. Matricaria, 333, 359.
20. Anthemis, 333, 360.
21. Achillea, 333, 361.
22. Diotis, 331, 348.
23. Artemisia, 332, 349.
24. Tenacetum, 332, 349.
25. Bidens, 331, 347.

CYNAROCEPHALÆ.

26. Saussurea, 331, 334.
27. Carlina, 331, 347.
28. Centaurea, 333, 362.
29. Arctium, 331, 343.
30. Onopordum, 331, 348.
31. Carduus, 331, 344.
32. Cnicus, 331, 345.
33. Serratula, 331, 342.

CICHORACEÆ.

34. Lapsana, 331, 342.
35. Cichorium, 331, 342.
36. Hypochœris, 331, 335.
37. Crepis, 331, 341.
38. Hieracium, 331, 338.
39. Thrincia, 330, 334.
40. Apargia, 330, 335.
41. Picris, 330, 334.
42. Tragopogon, 330, 333.
43. Helminthia, 330, 334.
44. Leontodon, 331, 340.
45. Lactuca, 331, 335.
46. Sonchus, 331, 337.
47. Mulgedium, 331, 337.
48. Xanthium, 376, 393.

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Order XLVII. CAMPANULACEÆ.

Calyx adnate to the ovary, 6-cleft or entire. Corolla 5-lobed, regular or irregular. Stamens equal in number to the lobes of the corolla, anthers 2-celled, opening longitudinally. Style 1. Fruit dry, opening by lateral fissures or valves at the apex, many-seeded.

LOBELIEÆ.

1. Lobelia, 118, 138.

CAMPANULEÆ.

2. Campanula, 118, 139.
3. Jasione, 118, 137.
4. Phyteuma, 118, 138.

Order XLVIII. ERICACEÆ.

Calyx 4- or 5-parted, persistent. Corolla 4- or 5-parted, regular or irregular, generally marcescent. Stamens 8; anthers 2-celled, opening by pores at the apex or base. Ovary surrounded by a disk or scale, many-celled, many-seeded; style 1. Fruit a many-celled, many-seeded capsule or berry.

ERICEÆ.

1. Andromeda, 209, 211.
2. Calluna, 198, 201.
3. Erica, 198, 202.
4. Menziesia, 198, 203.
5. Azalea, 117, 136.

ARBUTEÆ.

6. Arbutus, 209, 211.
7. Arctostaphylos, 209, 211.

VACCINIEÆ.

8. Vaccinium, 198, 203.

PYROLEÆ.

9. Pyrola, 209, 212.
10. Moneses, 209, 213.

MONOTROPEÆ.

11. Monotropa, 209, 210.

Order XLIX. ILICINEÆ.

Calyx of from 4 to 6 imbricated lobes. Corolla regular, with from 4 to 6 lobes. Stamens alternate with the lobes of the corolla. Ovary with from 2 to 6 more cells; ovules solitary, pendulous, with a cup-shaped stalk. Fruit fleshy, indehiscent.

1. Ilex, 101, 110.

Order L. JASMINEÆ.

Calyx divided, persistent. Corolla with from 4 to 8 divisions, rarely none. Stamens 2. Ovary 2-celled, ovules in pairs, pendulous. Fruit a berry, drupe, or capsule.

1. Ligustrum, 44, 45.
2. Fraxinus, 44, 45.

Order LI. APOCYNEÆ.

Calyx with 4 or 5 persistent divisions. Corolla regular, with 4 or 5 lobes, twisted, deciduous. Stamens 5, with the filaments distinct; anthers 2-celled, pollen granular. Ovaries 2, 1-celled; or 1, 2-celled, many-seeded.

1. Vinca, 117, 136.

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Order LII. GENTIANEÆ.

Calyx divided, persistent. Corolla regular, marcescent, twisted, with 4, 5, 6, 8, or 10 lobes. Stamens as many as the lobes. Ovary with 1 or 2 cells, many-seeded; style 1. Capsule or berry many-seeded, generally 2-valved.

1. Chlora, 198, 201.
2. Gentiana, 118, 146.
3. Cicendia, 100, 106.
4. Erythræa, 117, 126.
5. Menyanthes, 117, 131.
6. Villarsia, 117, 131.

Order LIII. POLEMONIACEÆ.

Calyx inferior, 5-parted, persistent. Corolla 5-lobed, regular, deciduous. Stamens 5, unequal, from the tube of the corolla. Ovary 3-celled; style simple; stigma 3-fid. Capsule 3-celled, the valves separating at the axis.

1. Polemonium, 117, 136.

Order LIV. CONVOLVULACEÆ.

Calyx inferior, 4- or 5-parted, persistent. Corolla 4- or 5-parted, regular, plaited, deciduous. Stamens 5, from near the base of the corolla. Ovary with from 2 to 4 cells, few-seeded; style 1, rarely 2. Capsule 4-celled, the valves separating from the edges of the dissepiment, or opening transversely.

1. Convolvulus, 117, 135.
2. Cuscuta, 118, 147.

Order LV. BORAGINEÆ.

Calyx 4- or 5-parted, persistent. Corolla 4-or 5-parted, commonly regular. Stamens 5, inserted upon the corolla. Ovary 4-parted, 4-seeded, with the ovules pendulous. Fruit of 4 achenia, or a 4-celled drupe, or a berry with 2 or 4 nuts.

CYNOGLOSSEÆ.

1. Asperugo, 117, 125.
2. Cynoglossum, 117, 126.

ANCHUSEÆ.

3. Borago, 116, 124.
4. Anchusa, 117, 125.
5. Lycopsis, 117, 124.
6. Symphytum, 116, 124.

LITHOSPERMEÆ.

7. Echium, 116, 122.
8. Pulmonaria, 116, 122.
9. Mertensia, 116, 132.
10. Lithospermum, 116, 122.
11. Myosotis, 117, 126.

Order LVI. SOLANEÆ.

Calyx inferior, 4- or 5-parted, persistent. Corolla regular, or slightly irregular, 5-cleft, deciduous. Stamens alternate with the segments of the corolla. Ovary 2-celled; stigma simple. Pericarp with 1, 2, or 4 cells; seeds numerous.

1. Solanum, 117, 134.
2. Atropa, 117, 134.
3. Hyoscyamus, 118, 133.
4. Verbascum, 119, 133.

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Order LVII. OROBANCHEÆ.

Calyx variously divided, persistent. Corolla irregular, persistent, usually 2-lipped. Stamen didynamous; anthers 2-celled, with the cells distinct, parallel. Ovary in a fleshy disk, 1-celled, with 2 or more parietal placentæ; stigma 2-lobed. Fruit a 2-valved, many-seeded capsule.

1. Orobanche, 265, 386. 2. Lathræa, 264, 280.

Order LVIII. SCROPHULARINEÆ.

Calyx 4- or 5-parted, persistent. Corolla irregular, or 2-lipped, or personate, imbricate. Stamens usually didynamous, sometimes 2 on the corolla. Ovary free, 2-celled; style simple; stigma 2-lobed. Fruit a 2-celled capsule, with central placenta.

Stamens 5.
1. Verbascum, 54, 58.

Stamens 4, *didynamous.*
2. Digitalis, 265, 284.
3. Antirrhinum, 265, 282.
4. Linaria, 264, 281.
5. Scrophularia, 265, 283.
6. Limosella, 265, 285.
7. Melampyrum, 264, 279.
8. Pedicularis, 264, 281.
9. Rhinanthus, 264, 278.
10. Bartsia, 264, 278.
11. Euphrasia, 264, 279.
12. Sibthorpia, 265, 285.

Stamens 2.
13. Veronica, 44, 46.

Order LIX. LABIATÆ.

Calyx tubular, persistent. Corolla 2-lipped, the lower lip 3-cleft. Stamens didynamous, rarely 2. Ovary 4-lobed; style 1, from the base of the lobes; stigma 2-parted. Fruit of 4 achenia, inclosed in the calyx.

MENTHEÆ.
1. Mentha, 263, 267.
2. Lycopus, 44, 51.

MONARDEÆ.
3. Salvia, 44, 52.

SATUREINEÆ.
4. Origanum, 264, 265.
5. Thymus, 264, 275.
6. Clinopodium, 264, 274.
7. Calamintha, 264, 277.

SCUTELLARIEÆ.
8. Scutellaria, 264, 276.
9. Prunella, 264, 276.

NEPETEÆ.
10. Nepeta, 263, 266.

STACHYDEÆ.
11. Melittis, 264, 275.
12. Lamium, 263, 269.
13. Leonurus, 264, 273.
14. Galeopsis, 263, 270.
15. Galeobdolon, 264, 271.
16. Stachys, 264, 272.
17. Ballota, 265, 273.
18. Marrubium, 264, 273.

AJUGEÆ.
19. Ajuga, 263, 265.
20. Teucrium, 263, 266.

Order LX. VERBENACEÆ.

Calyx tubular, persistent. Corolla irregular, tubular. Stamens didynamous, sometimes 2. Ovary 2- or 4-celled; style 1; stigma cleft. Fruit a capsule or berry, with 2 or 4 nucules.

1. Verbena, 264, 274.

Order LXI. LENTIBULARIEÆ.

Calyx divided, persistent. Corolla 2-lipped, spurred. Stamens 2. Ovary 1-celled, of 2 carpels; styles short; stigma of 2 plates. Capsule 1-celled, many-seeded, with a large central placenta.

1. Pinguicula, 44, 48. 2. Utricularia, 44, 50.

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Order LXII. PRIMULACEÆ.

Calyx 5- or 4-parted, persistent. Corolla regular, with 5 or 4 lobes. Stamens opposite to the lobes of the corolla. Ovary free, 1-celled, with a central placenta; stigma capitate. Fruit a capsule, with numerous seeds.

1. Primula, 117, 130.
2. Huttonia, 117, 131.
3. Cyclamen, 117, 129.
4. Lysimachia, 117, 129.
5. Anagallis, 117, 128.
6. Centunculus, 100, 108.
7. Trientalis, 197, 198.
8. Glaux, 118, 145.
9. Samolus, 117, 137.

Order LXIII. PLUMBAGINEÆ.

Calyx tubular, 5-cleft, plicate, inferior. Corolla regular, 5-parted. Stamens 5. Ovary free, 1-celled, 1-seeded; styles 5. Fruit a utricle, with an inverted seed.

1. Statice, 121, 174.
2. Armeria, 121, 174.

Order LXIV. PLANTAGINEÆ.

Calyx 4-parted, imbricate, persistent. Corolla regular, 4-parted. Stamens 4. Ovary free, 1-celled, or with 2 or 4 cells; ovules 1, 2, or more; style 1. Capsule opening transversely.

1. Plantago, 100, 107.
2. Littorella, 375, 391.

Section IV. MONOCHLAMYDEÆ.

Flowers incomplete, or having a single perianth, not distinguishable into calyx and corolla.

Order LXV. AMARANTHACEÆ.

Perianth of from 3 to 5 segments, persistent. Stamens from 3 to 5, hypogynous. Ovary free, 1-celled, with 1 or several ovules; style 1 or none; stigma simple or compound. Capsule 1-celled; seeds from a central placenta; embryo curved round a central farinaceous albumen.

1. Amaranthus, 376, 394.

Order LXVI. CHENOPODIACEÆ.

Perianth generally 5-parted, persistent. Stamens 5, 2, or 1, from the base of the perianth. Ovary free or adhering to the tube of the perianth; style divided, rarely 1. Fruit indehiscent, dry, membranous, sometimes fleshy. Seed with the embryo spiral, or curved, or doubled, with or without albumen.

SALSOLEÆ.

1. Schoberia, 118, 150.
2. Salsola, 119, 150.

CHENOPODEÆ.

3. Chenopodium, 118, 114.
4. Beta, 118, 148.

SALICORNIEÆ.

5. Salicornia, 43, 43.

ATRIPLICEÆ.

6. Atriplex, 418, 418.

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Order LXVII. POLYGONEÆ.

Perianth with 3, 5, or 6 segments. Stamens varying in number, from the base of the perianth. Ovary 1, free, erect; styles and stigmas several. Fruit a nut or achenium, often triangular. Seed 1, with the embryo inverted in a farinaceous albumen.

1. Polygonum, 199, 205. 2. Rumex, 179, 193.
3. Oxyria, 179, 192.

Order LXVIII. ELEAGNEÆ.

Mostly diœcious. Perianth tubular, 4-parted. Stamens 3 or more; anthers 2-celled. Fertile flower with the perianth tubular, 2- or 4-toothed; ovary 1-celled; style short; stigma glandular. Fruit crustaceous, inclosed within the fleshy perianth.

1. Hippophae, 401, 413.

Order LXIX. THYMELEÆ.

Perianth tubular, 4- or 5-parted. Stamens 4 or 5, in the orifice of the tube; anthers 2-celled. Ovary free, 1-celled, with 1 pendulous ovule. Fruit a nut or drupe.

1. Daphne, 198, 204.

Order LXX. SANTALACEÆ.

Perianth adnate to the ovary, its limb with from 3 to 5 segments, valvate. Stamens 4 or 5, opposite to the segments. Ovary 1-celled, with from 1 to 4 ovules from near the apex of a central placenta; style 1. Fruit drupaceous.

1. Thesium, 118, 146.

Order LXXI. ARISTOLOCHIEÆ.

Perianth adnate to the ovary below, above tubular, with an irregularly lobed, and often dilated limb. Stamen 6, 10, or 12, epigynous. Ovary with 3 or 6 cells; style simple; stigma radiate. Fruit many-seeded.

1. Aristolochia, 364, 374. 2. Asarum, 230, 230.

Order LXXII. EMPETREÆ.

Diœcious. Perianth of several hypogynous scales in several rows. Stamens free, equal in number to the inner row, and alternate with them. Ovary free, on a fleshy disk, with 3, 6, or 9 cells; style 1; stigma radiate. Fruit fleshy, with bony cells.

1. Empetrum, 400, 412.

Order LXXIII. EUPHORBIACEÆ.

Usually monœcious. Perianth lobed, or none. Barren flowers, with 1 or more stamens; anthers 2-celled. Fertile flowers, with a superior 2- or 3-celled ovary; styles 2 or 3; stigma compound or simple. Capsule opening elastically, with 1 or 2 suspended seeds in each cell.

1. Buxus, 375, 391. 2. Euphorbia, 374, 377.
3. Mercurialis, 401, 415.

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Order LXXIV. URTICACEÆ.

Flowers monœcious or diœcious, scattered, or in catkins. Perianth inferior, with 3, 4, or 6 segments, or entire. Stamens opposite the lobes of the perianth. Ovary free, with 1 or 2 cells, and solitary ovules; stigmas 1 or 2. Fruit an achenium, with 1 seed, or several combined and immersed in the persistent fleshy perianth, or upon large fleshy receptacles.

URTICEÆ.
1. Parietaria, 100, 109.
2. Urtica, 374, 392.

CANNABINEÆ.
3. Humulus, 401, 414.

Order LXXV. ULMACEÆ.

Flowers perfect or polygamous. Perianth inferior, often irregular. Stamens opposite to the lobes of the perianth. Ovary free, 2-celled, with solitary, pendulous ovules; stigmas 2. Fruit indehiscent, membranaceous, or drupaceous, with 1 or 2 cells.

1. Ulmus, 119, 151.

Order LXXVI. AMENTACEÆ.

Flowers monœcious or diœcious, rarely perfect. Barren flowers capitate or in catkins, sometimes with a membranous perianth. Stamens inserted on the scales, often monadelphous. Fertile flowers clustered, solitary or in catkins. Ovary generally simple; stigmas 1 or more. Fruit as many as the ovaries, bony or membranous.

BETULINEÆ.
1. Betula, 377, 398.
2. Alnus, 375, 391.

SALICINEÆ.
3. Salix, 400, 402.
4. Populus, 401, 415.

CUPULIFERÆ.
5. Fagus, 376, 397.
6. Custanea, 377, 398.
7. Quercus, 376, 397.
8. Corylus, 377, 399.
9. Carpinus, 377, 398.

Order LXXVII. MYRICACEÆ.

Flowers monœcious or diœcious, amentaceous. Perianth none. Barren flower, with 6 or 8 stamens, and 2- or 4-celled anthers, opening longitudinally. Female flowers with a 1-celled ovary, surrounded by hypogynous, persistent scales; stigmas 2. Fruit drupaceous. Seed solitary, erect.

1. Myrica, 401, 414.

Order LXXVIII. CONIFERÆ.

Flowers monœcious or diœcious. Barren flowers with 1 or several monadelphous stamens, collected in a deciduous catkin about a common stalk; anthers of 2 or more lobes opening outwards, often terminated by a scale-like crest. Fertile flowers usually in cones, sometimes solitary. Ovary spread open, like a flat scale, without style or stigma, and arising from the axil of a membranous bract. Ovules naked, in pairs on the face of the ovary, and inverted. Fruit a cone, or a solitary naked seed. Testa crustaceous, embryo in the axis of a fleshy albumen.

ABIETINEÆ.
1. Pinus, 377, 399.

CUPRESSINEÆ.
2. Juniperus, 402, 407.

TAXINEÆ.
3. Taxus, 402, 417.

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CLASS II. MONOCOTYLEDONEÆ.

Stem with no distinction of bark, wood, and pith, destitute of medullary rays, and consisting of cellular tissue, in the midst of which the vascular tissue is disposed in bundles. It increases by the addition of new matter in the centre, and hence these plants are also called ENDOGENOUS. Cotyledon 1, or, if more, they are alternate.

Section I. FLORIDÆ.

Perianth petaloid, its pieces verticillate.

1. Ovary free.

Order LXXIX. ALISMACEÆ.

Perianth free, 6-parted, coloured. Stamens 6, 9, or more. Ovaries 3, 6, or more; as are the styles and stigmas. Capsule indehiscent, with 1 or many seeds; embryo curved.

1. Alisma, 179, 196. 2. Actinocarpus, 179, 197.
3. Sagittaria, 376, 395.

Order LXXX. BUTOMACEÆ.

Perianth free, 6-parted, the three inner pieces petaloid. Stamens hypogynous. Ovaries 3, 6, or more, distinct or united, with as many simple stigmas. Follicles several, distinct or united. Seeds minute, numerous, attached to a reticulated receptacle, lining the inner surface of the cell.

1. Butomus, 208, 208.

Order LXXXI. JUNCAGINEÆ.

Perianth uniform, herbaceous, or none. Stamens hypogynous. Ovaries superior; ovules 1 or 2, erect, approximated at the base. Pericarps indehiscent.

1. Triglochin, 179, 196. 2. Scheuchzeria, 179, 195.

Order LXXXII. AROIDEÆ.

Flowers mostly unisexual, arranged on a spadix. Perianth with 3, 4, or 6 divisions, or none. Stamens definite and opposite to the segments of the perianth, or numerous; anthers extrorse. Ovaries free, solitary or numerous, with from 1 to 3 cells, and 1 or many seeds; stigmas 1 or 2. Fruit indehiscent, succulent or dry; embryo in the axis of a fleshy albumen.

ARINEÆ.
1. Arum, 376, 396.
2. Acorus, 179, 187.

TYPHINEÆ.
3. Typha, 374, 381.
4. Sparganium, 374, 381.

LEMNEÆ.
5. Lemna, 45, 53.

Order LXXXIII. NAIADES.

Flowers perfect or monœcious. Perianth of 2 or 4 pieces, or none. Stamens definite, hypogynous. Ovaries 1 or more, su-

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perior; stigma simple; ovule solitary, pendulous. Fruit dry, indehiscent, 1-celled, 1-seeded; seed pendulous.

1. Potamogeton, 101, 113.
2. Ruppia, 101, 116.
3. Zannichellia, 374, 380.
4. Zostera, 374, 379.

Order LXXXIV. SMILACEÆ.

Perianth with 6 or 8 segments, regular, petaloid. Stamens 3, 6, or 8, hypogynous or perigynous. Ovary free, with 3 or 4 cells, which contain 1, 2, or many seeds; style 1; stigma 3-parted. Fruit a berry. Testa generally membranous, albumen horny.

1. Ruscus, 400, 412.
2. Convallaria, 178, 182.
3. Paris, 199, 207.

Order LXXXV. LILIACEÆ.

Perianth with 6 segments, regular, petaloid. Stamens 6, perigynous. Ovary free, with 3 cells, and many-seeded; stigma simple or 3-lobed. Capsule 3-celled; seeds with a spongy integument, not black.

1. Fritillaria, 178, 183.
2. Tulipa, 178, 183.

Order LXXXVI. ASPHODELEÆ.

Perianth of 6 segments, regular, petaloid. Stamens 6, hypogynous or perigynous. Ovary free, 3-celled, with 1, 2, or many seeds; style 1; stigma simple. Capsule 3-celled, 3-valved. Seeds with a black crustaceous testa.

1. Ornithogalum, 178, 184.
2. Gagea, 178, 184.
3. Scilla, 178, 185.
4. Agraphis, 178, 186.
5. Muscari, 178, 187.
6. Allium, 178, 185.
7. Lloydia, 178, 183.
8. Asparagus, 178, 182.

Order LXXXVII. COLCHICACEÆ.

Perianth 6-parted, petaloid. Stamens 6, perigynous; anthers extrorse. Ovaries superior, one of 3 cells, or 3 of one cell, more or less connected; ovules numerous; styles 1 or 3. Fruit of three separate 1-celled follicles, or more or less united into a 3-celled capsule.

1. Colchicum, 179, 196.
2. Tofieldia, 179, 195.

Order LXXXVIII. RESTIACEÆ.

Perianth more or less glumaceous, of from 2 to 6 segments, rarely none. Stamens hypogynous or perigynous, from 1 to 6; when half as many as the segments of the perianth, they are opposite to the inner. Anthers 1-celled. Ovary superior, with 1 or more cells; ovules solitary, pendulous. Fruit capsular or nucumentaceous, with inverted seeds.

1. Eriocaulon, 375, 393.

Order LXXXIX. JUNCEÆ.

Perianth more or less glumaceous, of 6 segments. Stamens 6, inserted into the base of the segments, or 3 opposite to the outer;

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anthers 2-celled. Ovary 1- or 3-celled, superior; ovules 1, 3, or many in each cell; style 1; stigmas generally 3. Fruit capsular, 3-valved.

1. Narthecium, 179, 187. 2. Juncus, 179, 188.
3. Luzula, 179, 191.

II. Ovary adnate to the tube of the corolla.

Order XC. HYDROCHARIDEÆ.

Perianth with 6 segments, the inner three petaloid, regular. Stamens epigynous. Ovary 1, inferior; stigmas 3, 6, or 1. Fruit dry or succulent, indehiscent, 1-celled, or with several cells. Embryo straight, no albumen.

1. Hydrocharis, 401, 416. 2. Stratiotes, 248, 256.

Order XCI. ORCHIDEÆ.

Perianth with 6 segments, the inner 3 petaloid, 2 being above, and 1, frequently lobed and spurred, below. Stamens 3, united in a central column, the lateral 2, or sometimes the middle 1, abortive; pollen powdery or coherent in masses. Ovary 1-celled, inferior, with 3 parietal placentas; style forming part of the column with the stamens; stigma a viscid space in front of the column. Capsules 3-valved; seeds very numerous, minute, with a loose, reticulated testa.

OPHRYDEÆ.
1. Orchis, 364, 365.
2. Gymnadenia, 364, 366.
3. Aceras, 364, 367.
4. Habenaria, 364, 367.
5. Ophrys, 364, 368.
6. Herminium, 364, 369.

NEOTTIEÆ.
7. Neottia, 364, 369.
8. Goodyera, 364, 369.
9. Listera, 364, 370.
10. Epipactis, 364, 371.
11. Cephalanthera, 364, 372.

MALAXIDEÆ.
12. Malaxis, 364, 372.
13. Liparis, 364, 372.
14. Corallorhiza, 364, 373.

CYPRIPEDEÆ.
15. Cypripedium, 364, 373.

Order XCII. IRIDEÆ.

Perianth with 6 segments, petaloid, often unequal. Stamens 3, at the base of the outer segments; anthers extrorse. Ovary inferior, 3-celled; style 1; stigmas three, dilated, often petalliform. Capsule 3-celled, 3-valved; seeds numerous, hard, with a cylindrical embryo, and generally horny albumen.

1. Iris, 55, 61. 2. Trichonema, 54, 61.
3. Crocus, 54, 60.

Order XCIII. AMARYLLIDEÆ.

Perianth with 6 segments, petaloid, unequal. Stamens 6, at the base of the segments; anthers introrse. Ovary inferior, 3-celled; style 1; stigmas 3, dilated, often petalliform. Capsule 3-celled, 3-valved; seeds numerous, with the integument not hard, the embryo straight.

1. Narcissus, 178, 181. 2. Leucojum, 178, 180.
3. Galanthus, 178, 181.

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Order XCIV. TAMEÆ.

Perianth with 6 segments, petaloid. Stamens 6, at the base of the segments; anthers introrse. Ovary inferior, 3-celled; ovules 2 in each cell, erect; style 1; stigmas 3, reflexed. Fruit bacciform, 3-celled. Embryo minute, inclosed in the albumen.

1. Tamus, 401, 414.

Section II. GLUMACEÆ.

Floral envelopes of alternate, imbricated bracts or scales.

Order XCV. CYPERACEÆ.

Flowers perfect or frequently monœcious, each having a glumaceous scale on a common axis. Perianth none, or rarely membranous. Stamens hypogynous, generally 3; anthers erect, basifixed. Ovary 1-celled, often surrounded by bristles; style single; generally 3-parted, sometimes 2-parted. Fruit a hard achenium or nucule.

CYPEREÆ.
1. Cyperus, 55, 63.
2. Schœnus, 55, 62.

SCIRPEÆ.
3. Cladium, 45, 53.
4. Rhynchospora, 51, 62.
5. Eleocharis, 55, 65.
6. Scirpus, 55, 63.
7. Blysmus, 55, 66.
8. Eriophorum, 55, 67.

CARICEÆ.
9. Carex, 375, 382.

ELYNEÆ.
10. Kobresia, 375, 390.

Order XCVI. GRAMINEÆ.

Flowers perfect, sometimes monœcious or diœcious, each with 2 bracts or glumes, rarely 1 or none, and 2 inner bracts or paleæ, rarely 1. Stamens hypogynous, from 1 to 6, generally 3. Ovary 1-celled; styles generally 2. Fruit a caryopsis.

PANICEÆ.
1. Digitaria, 56, 77.
2. Setaria, 56, 82.

PHALARIDEÆ.
3. Phalaris, 55, 71.
4. Anthoxanthum, 45, 54.
5. Hierochloe, 56, 82.

PHLEÆ.
6. Phleum, 55, 70.
7. Alopecurus, 55, 68.
8. Knappia, 55, 69.

AGROSTIDEÆ.
9. Gastridium, 55, 74.
10. Polypogon, 56, 73.
11. Milium, 56, 73.
12. Agrostis, 56, 77.

ARUNDINEÆ.
13. Phragmites, 57, 94.

CHLORIDEÆ.
14. Cynodon, 56, 76.
15. Spartina, 56, 76.

SESLERIEÆ.
16. Sesleria, 57, 83.

AVENEÆ.
17. Aira, 56, 77.
18. Avena, 57, 93.
19. Arrhenatherum, 55, 81.
20. Holcus, 56, 80.
21. Triodia, 57, 85.
22. Lagurus, 56, 75.

FESTUCEÆ.
23. Kœleria, 56, 79.
24. Melica, 56, 80.
25. Molinia, 55, 79.
26. Catabrosa, 55, 79.
27. Poa, 57, 86.
28. Glyceria, 57, 83.
29. Briza, 57, 85.
30. Dactylis, 57, 86.
31. Cynosurus, 57, 90.
32. Festuca, 57, 88.
33. Bromus, 57, 91.

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34. Brachypodium, 57, 95.

HORDEÆ.

35. Triticum, 57, 98.
36. Lolium, 57, 95.
37. Elymus, 57, 96.
38. Hordeum, 57, 97.

ROTTBOLLIEÆ.

39. Nardus, 55, 68.
40. Lepturus, 57, 96.

SERIES II. CELLULAR PLANTS.

Composed of cellular tissue, sometimes with a few ducts. No flowers with stamens and pistils.

Class III. ACOTYLEDONEÆ.

Divided into several natural orders, of which the following have been included in this work.

Order XCVII. FILICES.

Leafy plants, with a trunk or rhizoma. Leaves, generally named fronds, bearing on their under side or at the edges the fructification, consisting of thecæ, containing sporules.

POLYPODIEÆ.

1. Polypodium, 420, 422.
2. Woodsia, 420, 422.

ASPIDIEÆ.

3. Aspidium, 420, 423.
4. Cystopteris, 420, 424.

ASPLENIEÆ.

5. Asplenium, 420, 425.
6. Scolopendrium, 420, 427.

GRAMMITIDEÆ.

7. Ceterach, 420, 421.

ADIANTEÆ.

8. Blechnum, 420, 427.
9. Pteris, 420, 427.
10. Adiantum, 421, 428.

HYMENOPHYLLEÆ.

11. Hymenophyllum, 421, 428.
12. Trichomanes, 421, 428.

OSMUNDEÆ.

13. Osmunda, 421, 428.
14. Botrychium, 421, 429.

OPHIOGLOSSEÆ.

15. Ophioglossum, 421, 429.

Order XCVIII. LYCOPODINEÆ.

Leafy plants, with numerous small undivided leaves, and axillar or spiked thecæ or capsules, containing sporules.

1. Lycopodium, 421, 430.

Order XCIX. EQUISETACEÆ.

Leafless, branched plants, with an articulated, striated, fistular stem, and a terminal spike, consisting of angular or peltate scales, bearing thecæ or capsules, containing sporules surrounded by elastic clavate filaments, by some called stamens.

1. Equisetum, 421, 431.

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GLOSSARY OF TERMS.

ABRUPT, with the extremity cut off, as it were, by a transverse line.
Abruptly pinnate, without a terminal leaflet or tendril.
Accumbent cotyledons, having their edges lying against the embryo.
Acerose leaves, slender, stiff, and pointed.
Acicular, needle-shaped.
Acotyledonous, destitute of cotyledons.
Aculeate, prickly, covered with prickles.
Aculeus, or prickle, an acute appendage arising from the bark.
Acuminate, taper-pointed.
Acute, ending in a point.
Adnate, adherent to another part.
Aggregate flowers, when several flowers, generally stalked, and with separated anthers, are inclosed in a common calyx or involucre.
Alternate, coming off one by one, in different directions.
Alternately pinnate, with alternate leaflets.
Amentum, catkin.
Amplexicaul, embracing the stem.
Annual, lasting one year at the most.
Anther, the organ which contains pollen.
Apocarpous, having the ovules distinct from each other.
Apple, a fleshy fruit, containing a capsule.
Arcuate, bent like the arc of a circle.
Aristate, having an awn.
Articulated stem or *leaf*, formed into distinct parts, united by portions of smaller diameter.
Arrow-shaped, sagittate; triangular, hollowed at the base.
Ascending, having an oblique direction upwards.
Auriculate, having two rounded lobes at the base.
Awl-shaped, subulate; long, cylindrical at the base, and tapering to a point.
Awn, arista; an elongated, stiff, slender acute body upon the flowers of grasses.
Axillar, growing between a leaf and the stem or branch, or between a branch and the stem.

Barbate, or *Bearded*, having a tuft of long hairs.
Barren flowers, destitute of pistils, and therefore not producing fruit.
Bell-shaped, campanulate; of the form of a bell, with the margin turned outwards.
Berry, bacca; a juicy fruit, containing seeds imbedded in its pulp.
Biennial, lasting two years.
Bifid, divided into two, but only a short way.
Bifurcate, twice forked.
Bigeminate, twice paired.
Bilobate, two-lobed.
Binate leaf, when two leaflets rest upon a common stalk.

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Bipinnate, twice pinnate, when the leaflets of a pinnate leaf themselves become pinnate.
Bipartite, deeply divided into two segments.
Biternate, twice ternate; when three secondary petioles proceed from the common petiole; and each bears three leaflets.
Border, the expanded part of the petal.
Bract, a leafy or membranous appendage to the flower, or its stalk.
Branches, divisions of the stem.
Bristle-pointed, terminated by a bristle, or bristly point.
Bristle-shaped, long, cylindrical at the base, tapering, and very slender.
Bristles, short stiff hairs.
Bristly, covered with short stiff hairs.
Bulbous-root, with an enlarged globular part, and numerous fibres.
Bundle, flower-stalks of equal length, growing close together.

Caducous calyx, falling off before the corolla.
Cæspitose, growing in tufts.
Calcarate, having a spur, or tubular prolongation.
Callous, thickened and stiff.
Calyx, the outer, generally green covering of a flower.
Campanulate, bell-shaped, of the form of a bell, with the margin turned outwards.
Capillary, hair-like, minute, slender.
Capitate, headed or knobbed; applied to hairs which terminate in an enlargement.
Capsule, a dry seed-vessel, generally of a membranous texture.
Carinate, keeled, having a longitudinal ridge at the back.
Cartilaginous, thick and tough.
Catkin, amentum; a long simple flower-stalk, thickly covered with scales and flowers.
Caudate, tailed, having a long slender appendage.
Cauline, growing on the stem.
Centrifugal inflorescence, when the central flowers open first.
Centripetal inflorescence, when the marginal flowers open first.
Chaffy, covered with membranous scales.
Channelled leaves or *stalks*, with a longitudinal groove.
Ciliated, fringed with hairs.
Circinate, rolled inwards from the point.
Cirrhus, a tendril, or filiform organ, serving to attach plants to other objects.
Clammy, covered with glutinous juice.
Clavate, club-shaped, thickest at the upper end.
Claw, the narrow portion of a petal.
Cleft, partite; deeply divided.
Climbing, ascending on other bodies.
Clinging, holding fast to another body for support.
Close-pressed, lying flat.
Cluster, raceme; numerous flowers, each on a stalk, arranged along a common stalk.
Clustered leaves, crowded together.
Coated bulbous root, composed of layers.
Coloured calyx, of any other colour than green.
Common or *general umbel*, the first divisions of an umbel.
Common involucre, at the base of a general umbel.

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Complete flower, furnished with both calyx and corolla.
Compound flower, when a number of flowers with united anthers grow on an expanded receptacle, within a common involucre.
Compound leaf, consisting of several pieces connected by insertion into a common stalk.
Compressed, flattened laterally.
Cone, a catkin hardened and enlarged.
Connate, adhering together.
Conical receptacle, elevated and coming to a point.
Conjugate leaf, with two leaflets.
Cordate, heart-shaped, having two rounded lobes at the base.
Cordato-ovate, between heart-shaped and egg-shaped.
Cordato-sagittate, between heart-shaped and arrow-shaped.
Coriaceous, of leathery consistence.
Corolla, the envelope of coloured and delicate leaves of a flower.
Corrugated, wrinkled in all directions.
Corymb, an erect cluster, the partial stalks of which are gradually longer as they stand lower on the common stalk.
Cotyledons, the two portions of a seed which at germination change into leaves.
Cover, indusium, a membranous covering for the sori of ferns.
Creeping root, one with a subterraneous stem, sending off fibres at intervals.
Creeping stem, running along the ground, and sending down roots at intervals.
Crenate, having the margin cut into small rounded segments.
Cruciform corolla, of four petals with long claws, standing opposite in pairs.
Cuneate, wedge-shaped, inversely triangular.
Cup-shaped, of the form of a bell, with the margin straight.
Curled, with the margin folded and more expanded than the disk.
Cylindrical, round and elongated.
Cyme, a kind of umbel, the partial stalks of which are irregular.
Cymose, divided in the manner of a cyme.

Deciduous leaves, falling off every year.
Deciduous calyx, or *corolla*, falling off before the fruit is perfected.
Declinate, bent downwards.
Decumbent stem, lying on the ground at the base.
Decurrent leaves, running down the stem or branch, so as to form a leafy border.
Decurrently pinnate, when the leaflets run down the stalk.
Decussate leaves, in pairs, alternately crossing.
Dehiscent fruits, opening spontaneously when ripe.
Deltoid, triangular.
Dentate, toothed, when the margin presents little, thickened projections.
Denticulate, furnished with small teeth.
Depressed, flattened vertically.
Depressed leaves, root-leaves pressed close to the ground.
Diadelphous, having the stamens in two sets, or in one set, and a single separate stamen.
Dichotomous, forked, repeatedly dividing into two.
Dicotyledonous, having two cotyledons.

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Didynamous, having four stamens, of which two are longer.
Digitate, several leaflets resting on the top of a common stalk.
Dilated stalks, enlarged in breadth.
Diœcious, when staminiferous flowers grow on one plant, and pistiliferous flowers on another plant, of the same species.
Disk, the central florets of a compound flower.
Distichous, arranged in two rows.
Dorsal, on the back.
Downy, covered with soft fine hairs.
Drupe, a fleshy fruit, containing a nut.

Elliptical, the length greater than the breadth, and both ends rounded.
Emarginate, having a small notch at the end.
Embracing the stem, amplexicaul; leaves sessile and clasping the stem at their base.
Emersed, standing out of the water.
Endogenous, growing inwards, increasing in diameter by additional inner layers.
Ensiform, sword-shaped.
Entire, without division, or without teeth or notches on the edges.
Epigynous, inserted on the top of the ovary.
Equal, all of the same length.
Equitant leaves, disposed in two opposite rows, and embracing each other at the base.
Erect, rising perpendicularly.
Even, destitute of inequalities.
Evergreen leaves, remaining green during the winter.
Exogenous, growing outwards, increasing in diameter by additional outer layers.
Extrorse, turned outwards.

Falcate, sickle-shaped.
Fasciculate, in bundles or tufts.
Feathery pappus, consisting of hairs which are subdivided like the shaft of a feather.
Fertile flower, having one or more pistils, and producing fruit.
Fibrous root, consisting entirely of fibres or radicles.
Filament, the stalk which supports the anther.
Filiform, slender, like a thread.
Fistulous, cylindrical and hollow.
Flat receptacle, perfectly even.
Fleshy, thick and juicy.
Flexuous, forming angles from right to left, and inversely.
Floating leaves or *stems*, lying flat on the surface of the water.
Floral leaf, bract; a leafy appendage to the flower or its stalk.
Flower-stalk, peduncle; a slender body which supports the flower.
Follicle, a one-valved, one-celled capsule, opening lengthwise.
Forked, regularly and repeatedly dividing into two.
Four-ranked, with leaves or branches spreading in four directions.
Fringed, margined with a row of hairs.
Frond, a leaf bearing the fructification.
Fugacious, falling off, or decaying rapidly.

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Furrowed, marked with parallel elevated and depressed lines.
Fusiform, spindle-shaped.

Galeate, arched like a helmet.
Gamopetalous, having the petals united.
Gamosepalous, having the sepals united.
Gaping corolla, ringent; an irregular corolla, with two lips and an open throat.
Geniculate culm, with the joints enlarged and bent like a knee.
Germen, the undermost part of the pistil.
Glabrous, smooth, hairless.
Glands, small soft bodies secreting fluids.
Glandular, covered with glanduliferous hairs.
Glaucous, pale greenish-blue; covered with a mealiness or bloom.
Globose, round, globular.
Glumaceous, consisting of glumes, or of organs resembling them.
Glume, a kind of scale or bract, forming the inner envelope of the flower.
Gnawed, irregularly notched at the margin.
Granulated root, consisting of small bulbs or scales.
Grooved, marked with parallel deep lines.

Habit of plants, their peculiar appearance.
Hair-shaped, capillary; long, cylindrical, and slender.
Hairs, slender bodies of various degrees of fineness, covering the surface of plants.
Hairy, pilose; covered with long, soft, straight hairs.
Halbert-shaped, hastate; triangular, hollowed out at the base and sides, with a projecting part on each side.
Hastate, halbert-shaped.
Head, flowers arranged sessile in a globular form.
Heart-shaped, cordate, ovate; with the base hollowed out.
Hemispherical, of the form of a half-sphere.
Herbaceous, soft, in opposition to woody
Hirsute, covered with long and stiffish hairs.
Hispid, covered with long stiff hairs.
Hoary, covered with close, extremely fine, white hairs.
Hollow stem or *leaves*, cylindrical, with an internal cavity.
Horizontal branches or *leaves*, standing off at right angles.
Hypocrateriform, salver-shaped; having the tube long and slender, and the limb flat.
Hypogynous, inserted beneath the pistil.

Imbricated leaves, or other organs, one lying closely over the other.
Immersed, under water.
Incomplete flower, when the corolla is wanting.
Incumbent anther. lying across the top of the filament.
Indehiscent fruits, not opening spontaneously when ripe.
Indigenous plants, those growing wild in a country.
Inflexed, bent inwards.
Inflorescence, the manner in which the flowers are arranged.
Infundibuliform, funnel-shaped.
Interruptedly pinnate, with smaller leaflets between the larger.
Introrse, turned inwards.

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Inversely egg-shaped or *heart-shaped*, with the broad end uppermost.
Involucre, a kind of bract, consisting of several leaves, at a distance from the flower; or a number of leaves or scales surrounding the flowers.
Involute, rolled inwards from the edges.
Irregular corolla, not uniform or symmetrical in its general form.

Jagged, irregularly cut at the margin.
Jointed, composed of distinct pieces united by intermediate parts.

Keel of a papilionaceous corolla, the lower boat-shaped piece.
Keeled leaves or other parts, with a longitudinal prominence at the back.
Kernel, the seed of a nut.
Kidney-shaped, reniform; roundish, with the base hollowed out.
Kneed straw, with the joints enlarged and bent like a knee.
Knobbed stigma, of a somewhat globular form.
Knotty, leaving knots at intervals.

Labiate, divided into two lips.
Laciniate, deeply cut into at the margin.
Lamina, the expanded part of a petal.
Lanceolate, oblong and narrow, tapering towards each end.
Lateral anther, attached to the side of the filament.
Lateral leaves, from the sides of the stem or branches.
Leaf-stalk, petiole; the stalk of a leaf.
Leathery, thin but tough.
Legume, a dry elongated seed-vessel, formed of two oblong valves, without a longitudinal partition.
Ligulate, strap-shaped.
Ligule, the stipule of grasses.
Limb, the expanded part of the corolla.
Linear, flat, very narrow, with the edges parallel.
Lobed, divided into segments, with rounded margins.
Lyrate, lyre-shaped; pinnatifid, with the terminal segment rounded and larger.

Marcescent, withering before falling off.
Membranous, very thin, dry, and easily torn.
Monadelphous, having the filaments united into one se..
Monœcious, when staminiferous flowers and pistilliferous flowers exist on the same plant.
Monocotyledonous, having only one cotyledon.
Monopetalous corolla, consisting of one petal or piece, or several petals united at the base.
Monosepalous calyx, of one sepal or piece, or several sepals united at the base.
Muricate, covered with numerous short hard processes.

Naked flower, destitute of a calyx.
Naked stem or *leaf*, without hairs.
Naturalized plants, those originally introduced from another country, but now become wild.
Navicular, shaped like a boat.

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Nectary, a part of the flower which contains or secretes honey.
Needle-shaped leaves, linear and evergreen.
Neutral flowers, destitute of both stamens and pistils.
Notched leaf or *petal*, ending with a small notch.
Nut, a seed covered with a hard shell, which does not burst.
Nutant, drooping.

Obcordate, inversely heart-shaped.
Oblong, when the length is three or four times greater than the breadth, and the end rounded.
Obovate, inversely egg-shaped.
Obtuse, blunt, rounded at the end.
Opposite leaves, or other parts, coming off on opposite sides at the same place.
Oppositely pinnate leaf, with opposite leaflets.
Orbicular, round and flat.
Oval, the length greater than the breadth, and both ends alike rounded.
Ovate, egg-shaped, flat, longer than broad, the base broader than the end.
Ovato-lanceolate, between egg-shaped and lance-shaped.
Ovato-urceolate, between egg-shaped and pitcher-shaped.
Oviform, shaped like an egg.

Paleaceous, chaffy, covered with membranous scales.
Palmate leaf, having several oblong segments, extending to the middle.
Panicle, when the flowers are in a kind of loose subdivided cluster.
Panicled stem, with irregular branches, which are themselves irregularly divided, the last divisions bearing flowers.
Papilionaceous corolla, of five petals, resembling a butterfly.
Papillous, covered with small soft prominences.
Partial involucre, at the base of a partial umbel.
Partial umbel, the secondary division of an umbel.
Partite, deeply divided into segments.
Pectinate, pinnatifid, with the segments very slender and parallel, so as to resemble the teeth of a comb.
Pedate leaf, a ternate leaf, having lateral leaflets divided into several others.
Peduncle, a slender body by which the flower is connected with the stem or branch.
Peltate leaf, when the stalk is inserted into the middle.
Pendulous, hanging.
Perennial, lasting several years.
Perfect flowers, having both stamens and pistils.
Perfoliate, when the stem, as it were, runs through a leaf.
Perianth, the calyx and corolla, or one or other of these organs.
Pericarp, the seed-vessel.
Perigynous stamens, inserted into the inner rim of the calyx.
Permanent leaves, remaining unaltered during winter.
Persistent calyx or *corolla*, remaining until the fruit is ripe.
Personate corolla, irregular, with two lips, and a closed throat.
Petals, the distinct pieces of a corolla.

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Pinnate. when several leaflets proceed from a common stalk.
Pinnatifid, cut transversely into several oblong segments.
Pistil, an organ consisting of three parts, occupying the centre of the flower.
Pithy, having the central part filled with pith.
Plicate, plaited, folded so as to present alternately projecting and retiring angles.
Pod, siliqua, a long dry seed-vessel of two valves, separating by a longitudinal partition, to the edges of which the seeds are alternately attached.
Polished, smooth and reflecting light.
Pollen, the dust or minute globules contained in the anther.
Polypetalous, consisting of several distinct pieces or petals.
Pores, small cavities or holes.
Pouch, silicula; a short pod.
Prickle, aculeus; an acute appendage arising from the bark.
Prickly. covered with prickles.
Procumbent, lying on the ground.
Protuberant, having a prominence.
Pubescent, downy.
Pyriform, pear-shaped.

Quadrangular, flat and four-cornered.
Quinate leaf, compound with five leaflets.
Quinquangular, flat with five corners.

Raceme, numerous flowers. each on a stalk, arranged along a common stalk.
Radiating flowers, having the marginal florets long and spreading.
Radical, leaves arising from the top of the root.
Ray, the marginal elongated florets of a compound flower.
Receptacle, the point at which all the parts of a flower meet.
Reclinate leaves, inclining downwards.
Reflexed, bent backwards.
Regular corolla, uniform in its general figure.
Remote leaves, scales, &c., widely separated.
Reniform, kidney-shaped.
Reticulated, when the veins resemble net-work.
Retuse leaf or *petal*, ending in a broad shallow notch.
Revolute, rolled back at the margin.
Rhombic, diamond-shaped.
Ribbed leaf, when the vessels extend in undivided lines.
Ribs, elevated lines.
Ringent corolla, the limb divided into two parts, leaving an open throat.
Rostrate, beaked.
Rotate, wheel-shaped, having a very short tube, and a flat limb.
Rough, covered with hairs.
Roundish leaves or *petals*, when the length and breadth are nearly equal.
Rosaceous corolla, of five equal roundish petals.
Runcinate, pinnatifid, with the segments pointed and directed downwards.

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Sagittate, shaped like the head of an arrow.
Salver-shaped corolla, with a long cylindrical tube and expanded limb.
Scabrous, rough with short stiff prominences.
Scaly stem, covered with scales.
Scape, a flower-stalk arising from the root.
Scarious, dry, thin, and shrivelled.
Scattered, irregularly distributed.
Scattered leaves or *scales*, irregularly distributed.
Scrobiculate, marked with little depressions.
Seed-down, a bristly crown attached to the seed.
Segments, the division of an organ.
Semi-amplexicaul, half embracing the stem.
Semi-cylindrical, elongated, flat on one side, and round on the other.
Sepals, the divisions or leaves of the calyx.
Serrate, with sharp close teeth, pointing in one direction.
Sessile, without stalk.
Setiform, having the form of a bristle.
Setose, bristly, covered with short stiff hairs.
Shaggy, covered with very long soft hairs.
Sheath, a membranous covering inclosing the flower, and afterwards bursting longitudinally.
Sheath of the leaf, the lower part of the leaf of a grass, which incloses the straw.
Sheathing, investing the stem with a sheath.
Shining, reflecting light strongly.
Simple, undivided, or consisting of one.
Simple flower, when a single flower is contained in the calyx.
Simple leaf, consisting of one piece.
Simple pappus, consisting of undivided hairs.
Smooth, destitute of hairs.
Solid, not hollow.
Solitary flower, one only in the same place, or on the stem.
Sori, masses or groups of capsules, arranged on the back of the frond in ferns.
Sparse, irregularly scattered, or distant.
Sparsely, distantly.
Spathulate, circular at the end, and tapering towards the base.
Spherical, of the form of a sphere.
Spike, numerous flowers arranged along a common stalk, nearly or entirely without partial stalks.
Spiked flowers, arranged in the form of a spike.
Spiked panicle, a very close panicle resembling a spike.
Spikelet, a term applied to grasses and other plants, which have many flowers arranged on a stalk within a common calyx.
Spindle-shaped root, thick and fleshy, tapering downwards.
Spine, an acute appendage, arising from the wood.
Spreading branches or *leaves*, coming off at a moderately acute angle.
Spur, a horn-shaped production of the corolla.
Stalk or *scape*, a stem that supports flowers, but not leaves.
Stamens, organs of the flower, consisting of a bag filled with powder, and generally supported on a stalk.
Standard, the upper petal of a papilionaceous corolla.
Stemless plants, having no stem properly so called.

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Stigma, the top of the style.
Stipulate leaves, having stipules.
Stipule, an appendage to the leaf.
Strap-shaped, ligulate; narrow and flat.
Straw, the culm or stem of grasses, rushes, and allied plants.
Striated or *streaked*, marked with parallel lines.
Strobilus, a catkin hardened and enlarged.
Style, a stalk supporting the stigma.
Subdivided stalk, bearing several flowers.
Subulate, awl-shaped; slender, round, tapering to the point.
Submersed, under water.
Succulent, thick, herbaceous, and juicy.
Sword-shaped, ensiform, gladiate; straight, two-edged, and slightly convex on both surfaces.

Tail, an elongated appendage to a seed.
Tapering root, thick and fleshy, tapering downwards.
Tendril, a threadlike organ, serving to attach plants to some support.
Terminal, at the end of the stem or branch.
Ternate leaf, when three leaflets rest upon a common stalk.
Tetragonal, with four angles.
Thorn, an acute appendage arising from the wood.
Thread-shaped, filiform; elongated, cylindrical, and slender.
Three-edged stem, with three sharp angles.
Thrice pinnate, divided three times in a pinnate manner.
Thyrsus, a close panicle of an oval form.
Tomentose, covered with close short down.
Toothed leaves or other parts, having small protuberances on the margin.
Triangular leaf, flat, with three angles.
Trifid, shortly divided into three segments.
Trigeminate, thrice paired.
Tripartite, deeply divided into three segments.
Tripinnate, thrice pinnate.
Triternate, thrice ternate.
Truncate, terminating abruptly, as if the tip had been cut off transversely.
Trunk, the stem of a tree or shrub.
Tube, the narrow cylindrical part of the corolla.
Tubular, cylindrical and hollow.
Tufted leaves, several springing from one point.
Tumid, bulging out.
Turbinate, spherical and depressed.
Twining, winding round other bodies.
Two-edged stem, compressed with two opposite sharp edges.
Two-ranked, with leaves or branches spreading in two opposite directions.

Umbel, flower-stalks of nearly equal length, arising from a common centre.
Umbellules, the secondary divisions of an umbel.
Undivided, without segments.
Undulated, having a waved margin.

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Unequal, some longer than others.
Unguiculate, clawed; having an appendage like a claw.
Unguis, the claw, or narrow part of a petal at its base.
Unilateral, all inclining one way.
Urceolate, pitcher-shaped, enlarged below, and narrowed at the throat, the mouth a little expanded.

Veined, with a net-work of prominent vessels.
Veins, branching vessels.
Ventral suture, that to which the seeds are attached.
Verrucose, warty, covered with small hard prominences.
Versatile anthers, turning very readily in various directions.
Verticil, whorl, when several flowers encircle the stem.
Verticillate flowers or *leaves*, arranged in a whorl.
Villous, covered with long soft hair.

Warty, covered with small hard prominences.
Wedge-shaped, cuneate; broad at the end and tapering towards the base.
Wheel-shaped corolla, with a short tube and expanded limb.
Whorl, when several flowers encircle the stem.
Whorled leaves or *flowers*, growing in a circle round the stem.
Wing of a seed, a dilated membranous appendage.
Winged stem, with edges extended into leafy borders.
Wings, the lateral pieces of a papilionaceous corolla.
Woody, hard and solid.
Woolly, covered with long, soft, interwoven hairs.
Wrinkled leaves, when the veins are tighter than the substance between them, so that the latter is puckered.

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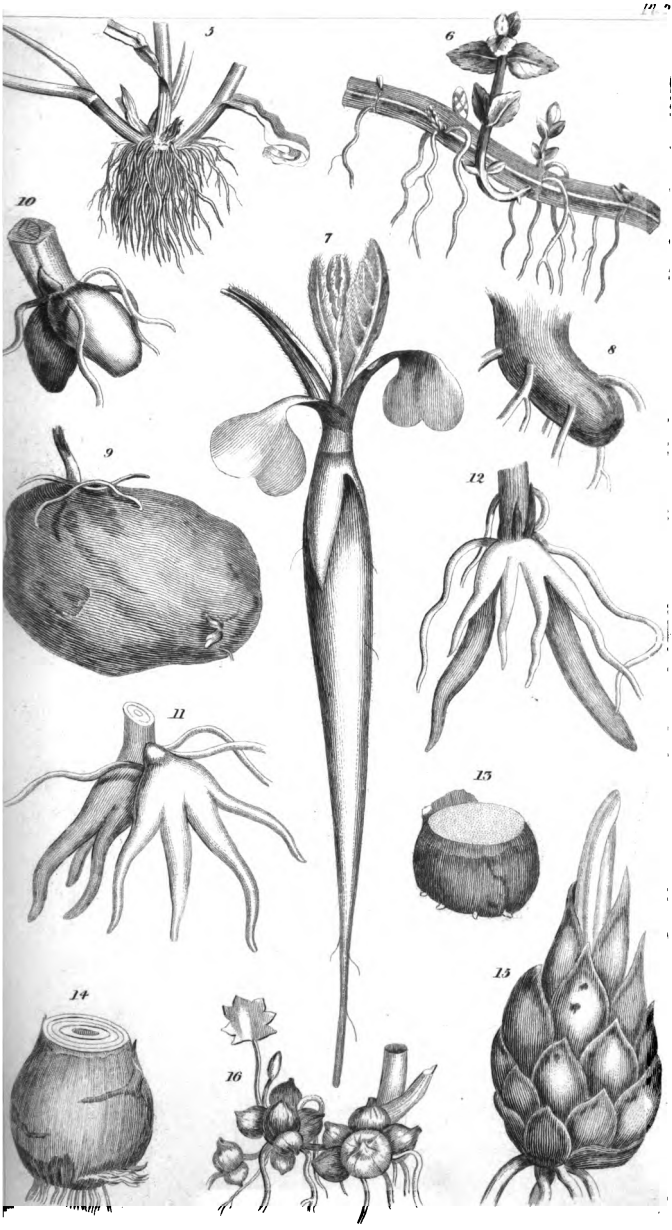

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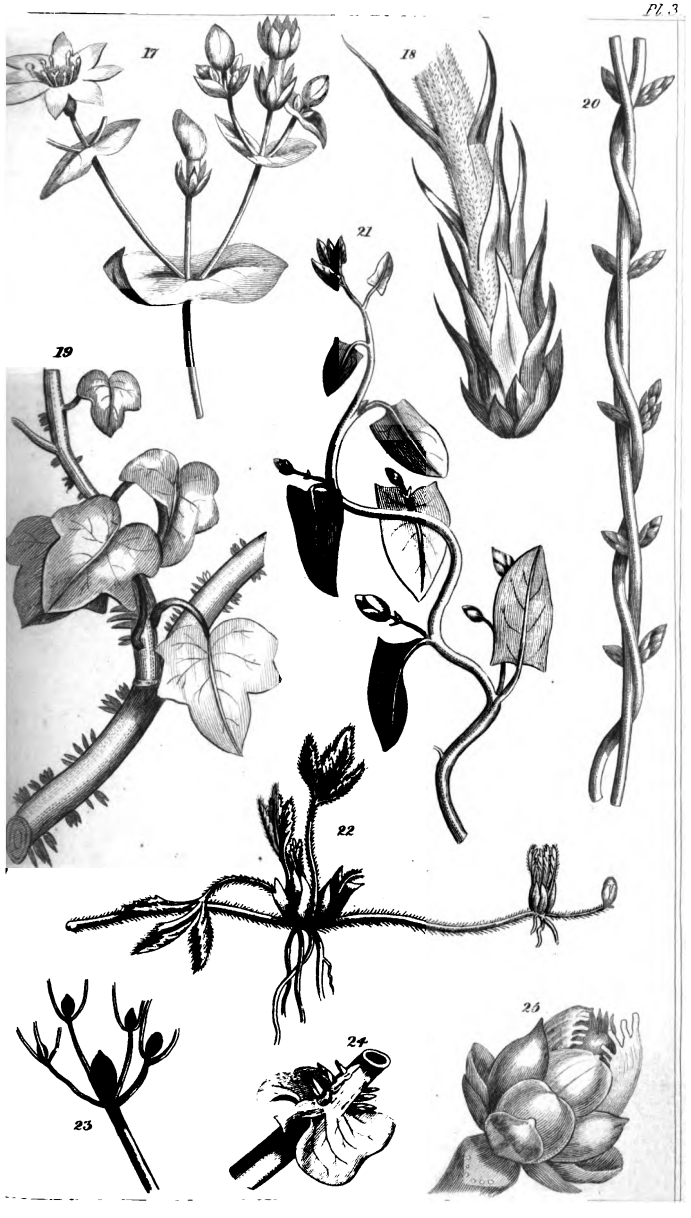

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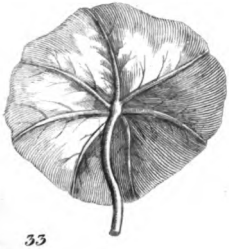

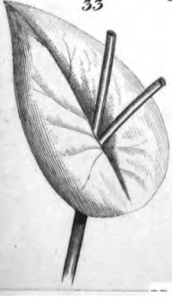

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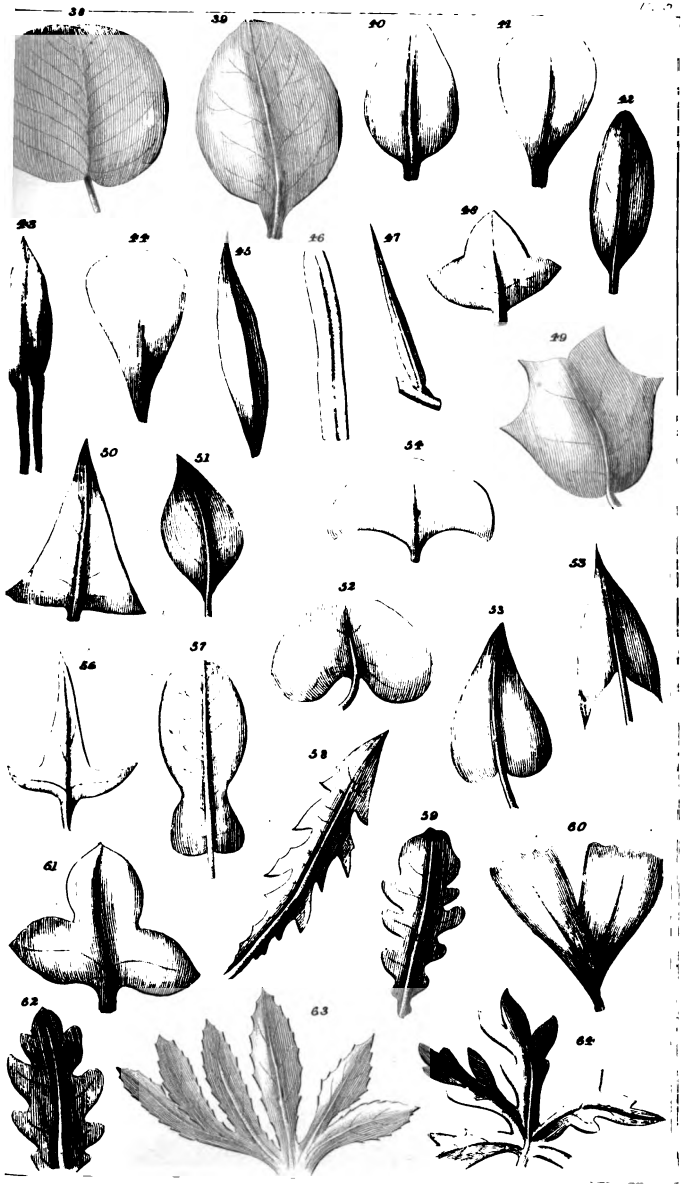

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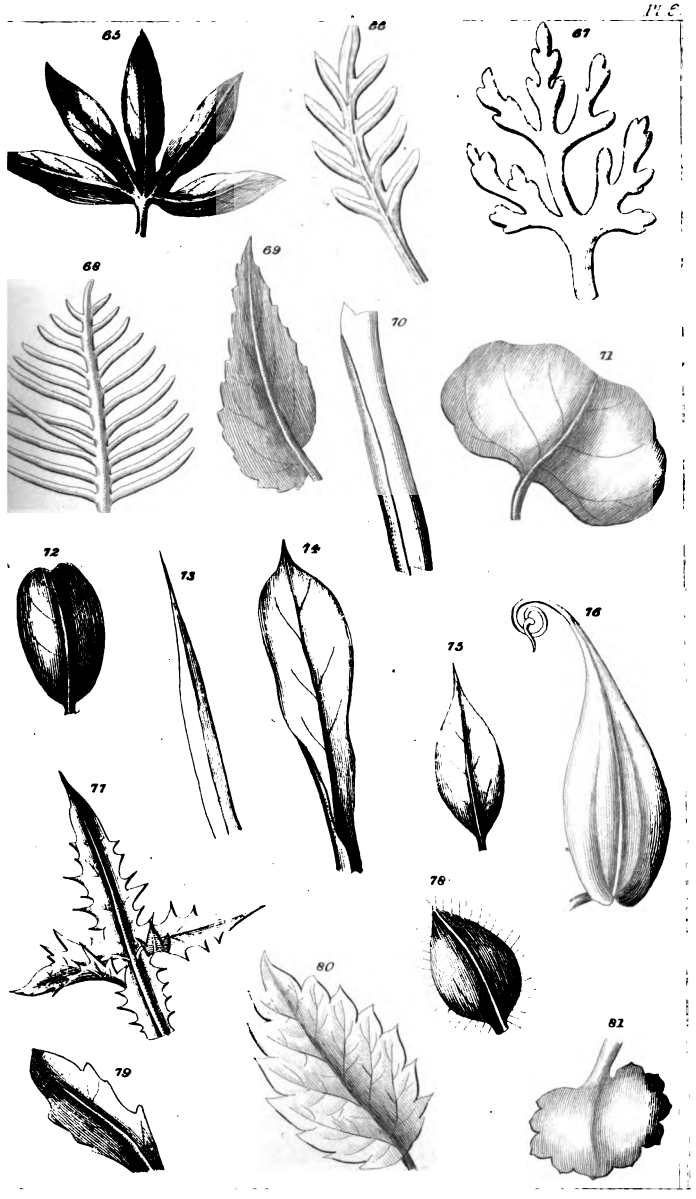

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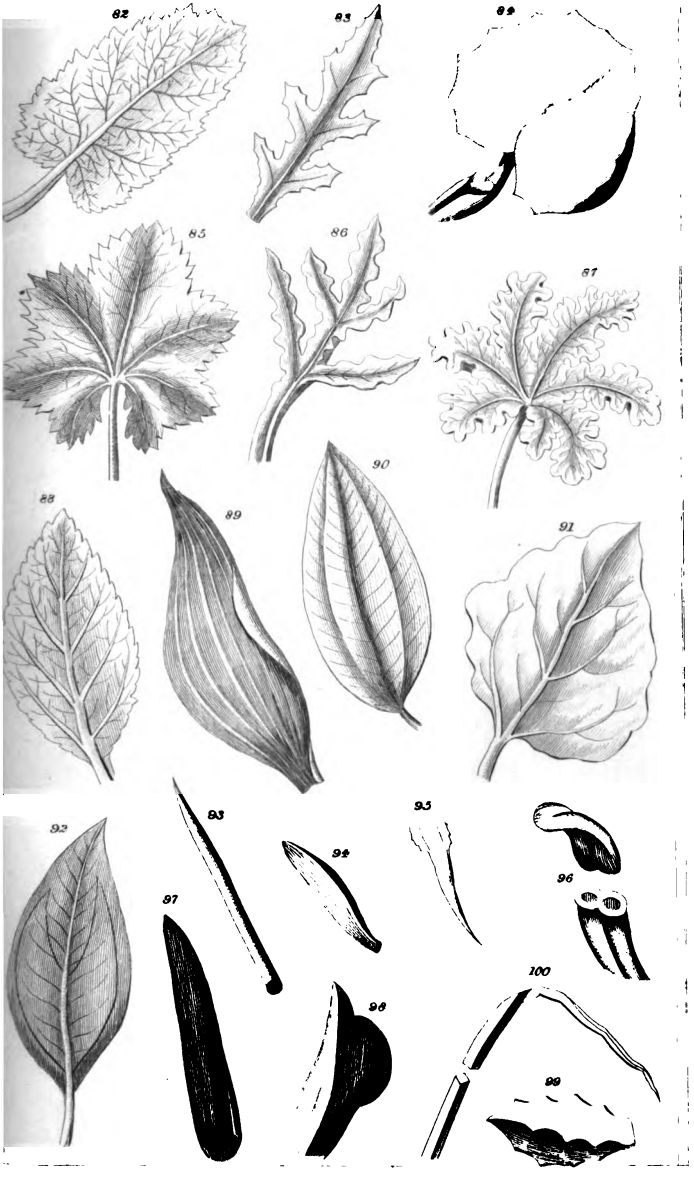

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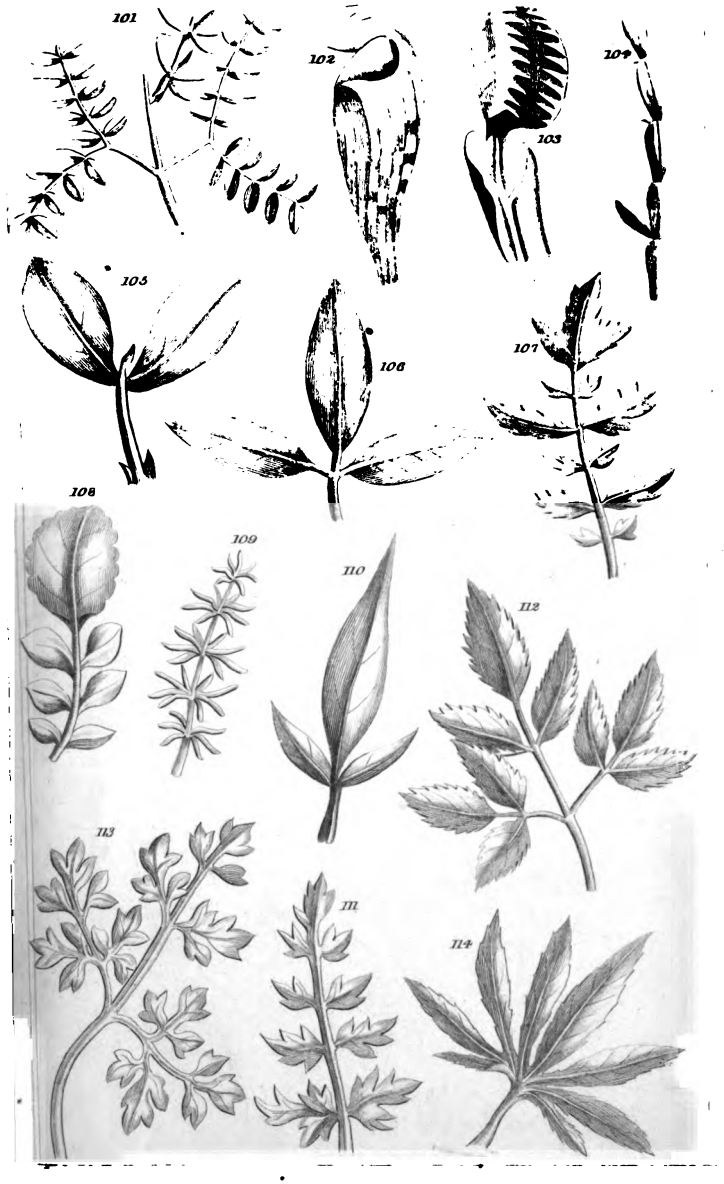

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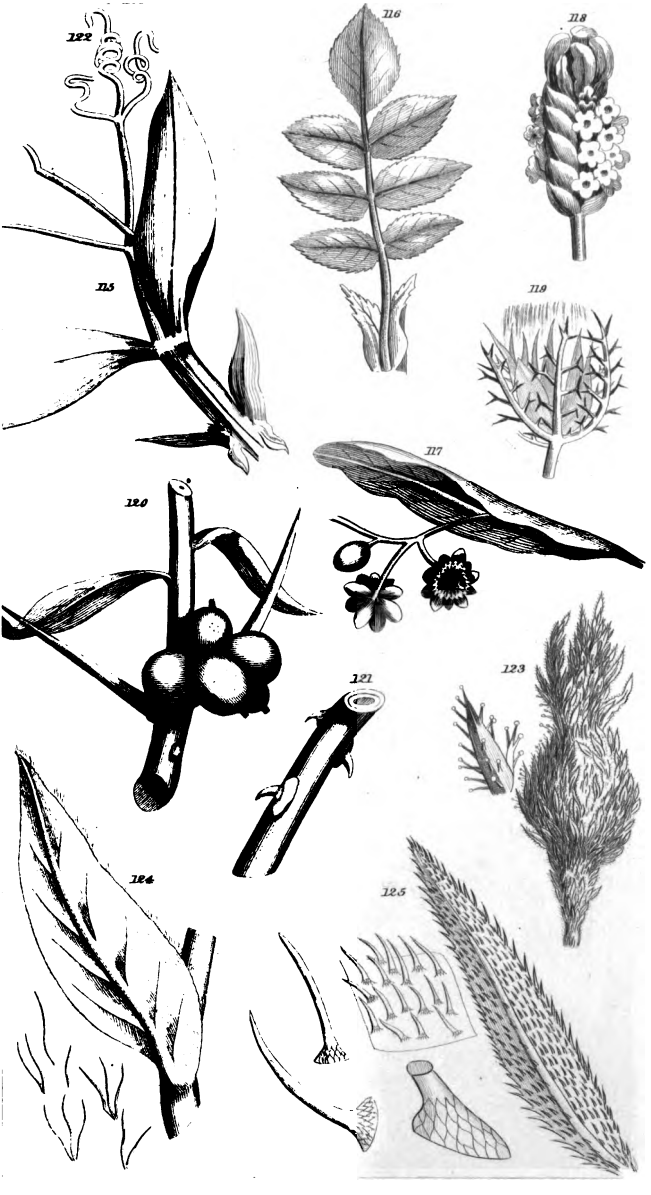

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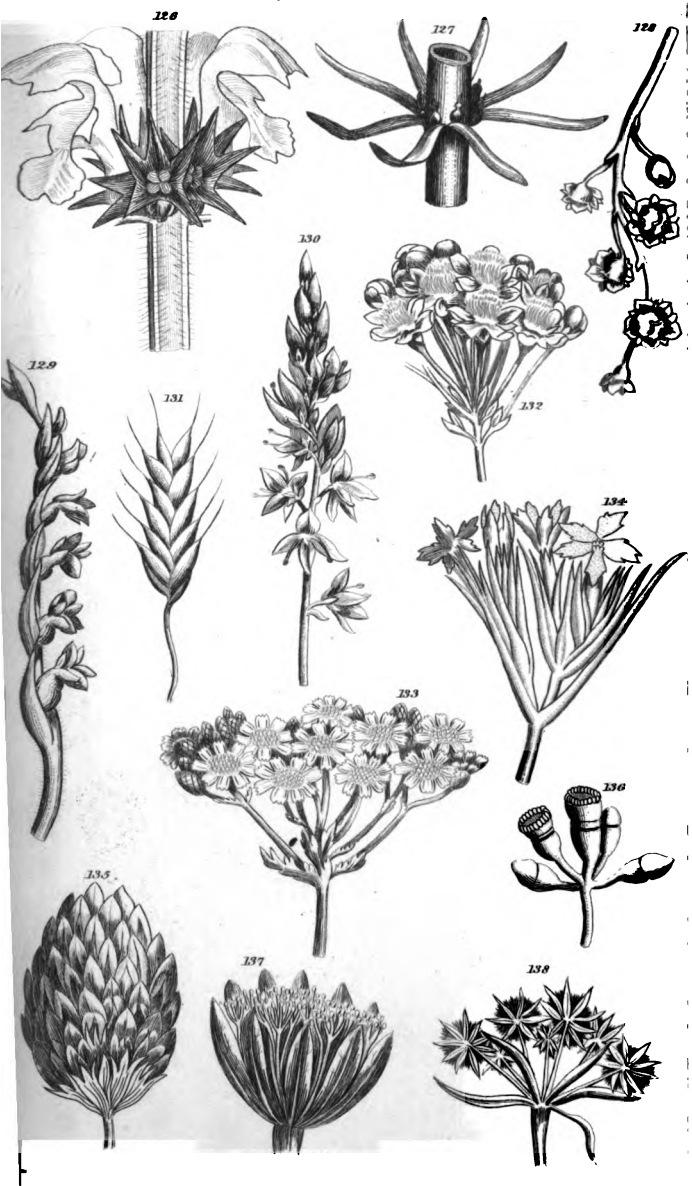

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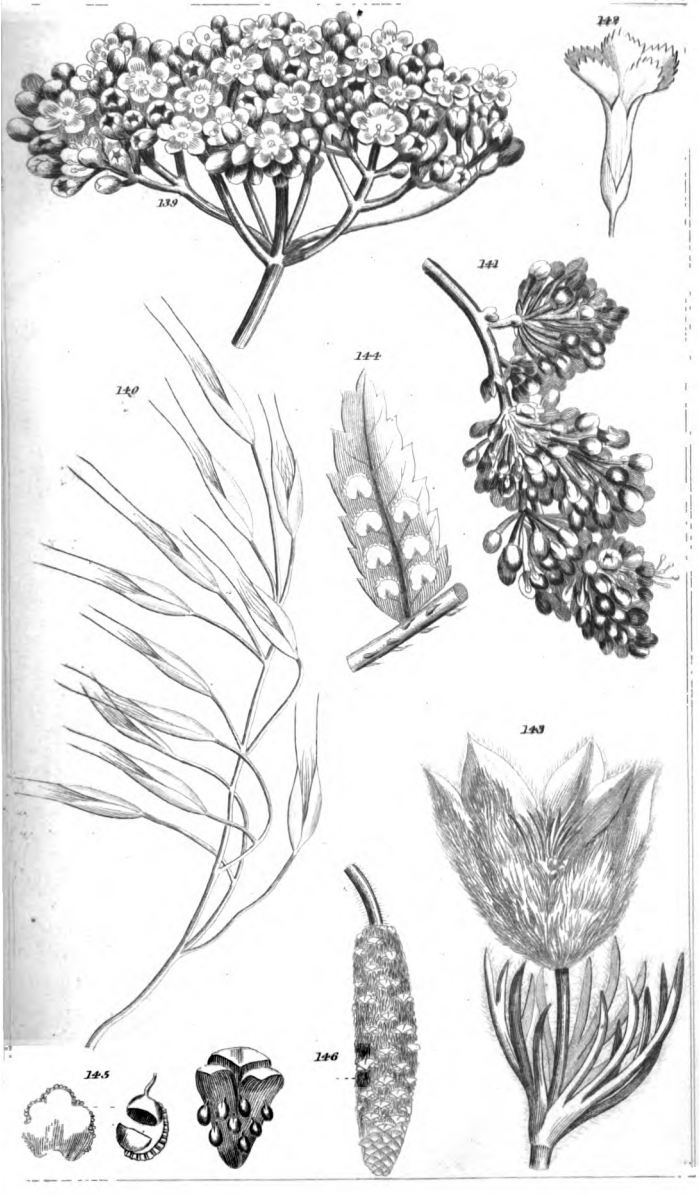

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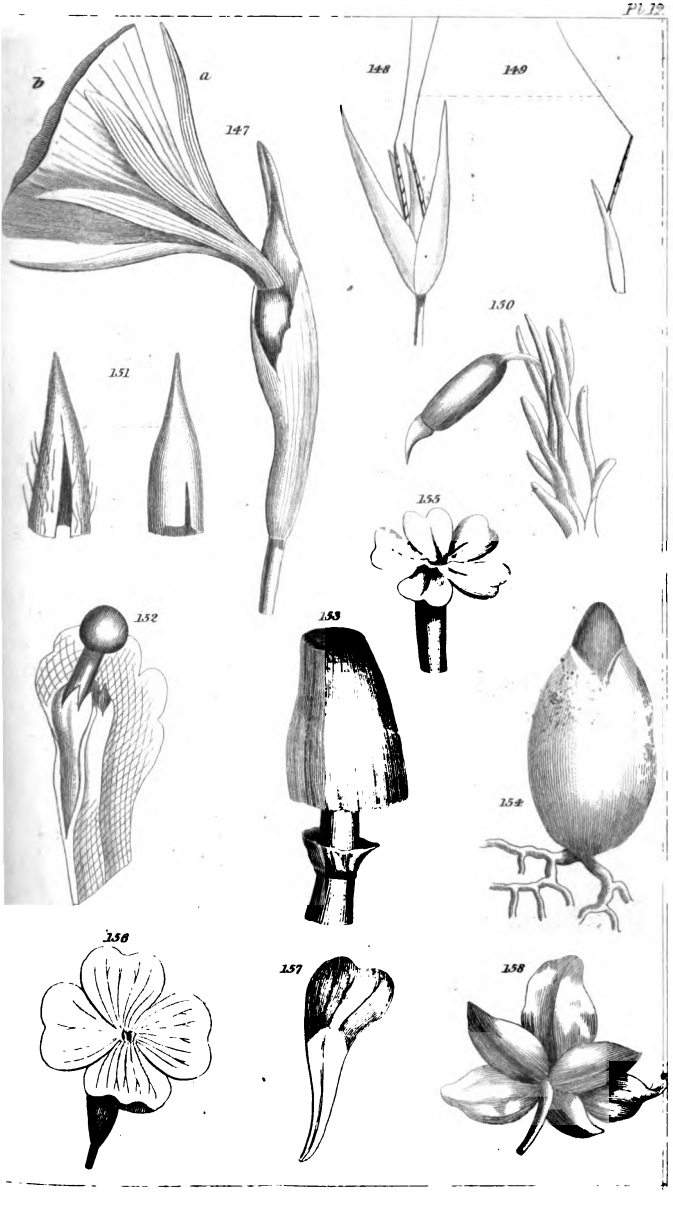

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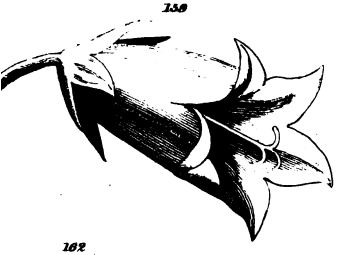

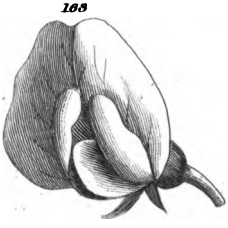

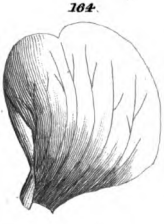

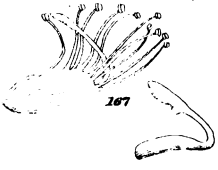

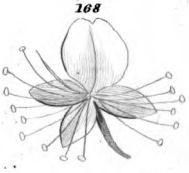

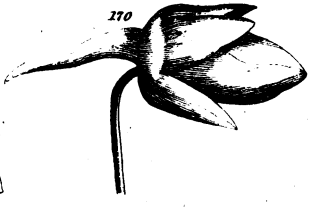

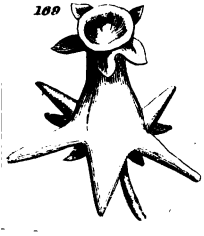

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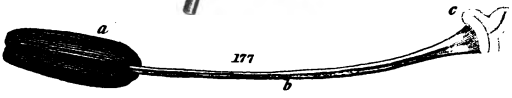

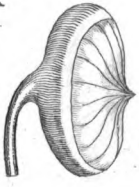

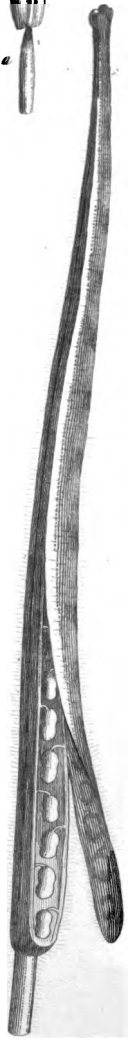

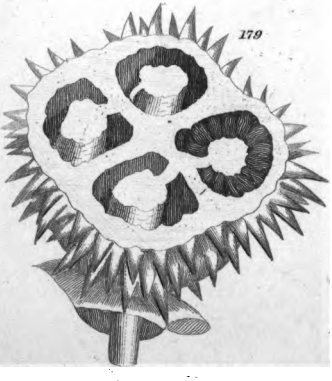

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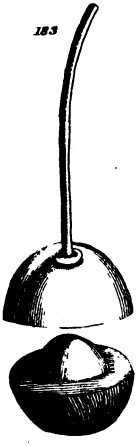

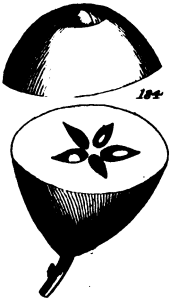

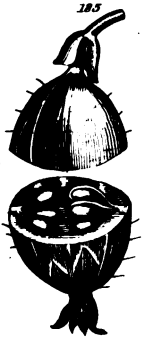

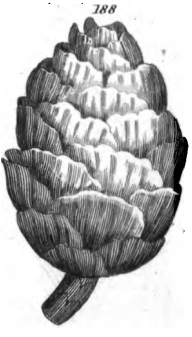

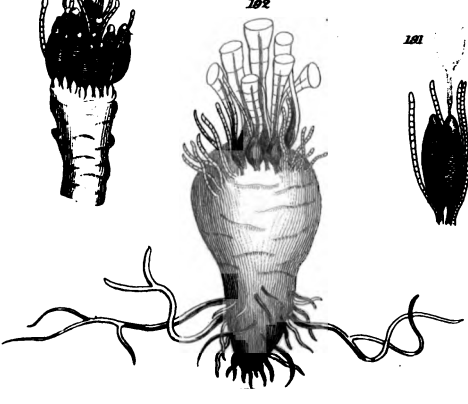

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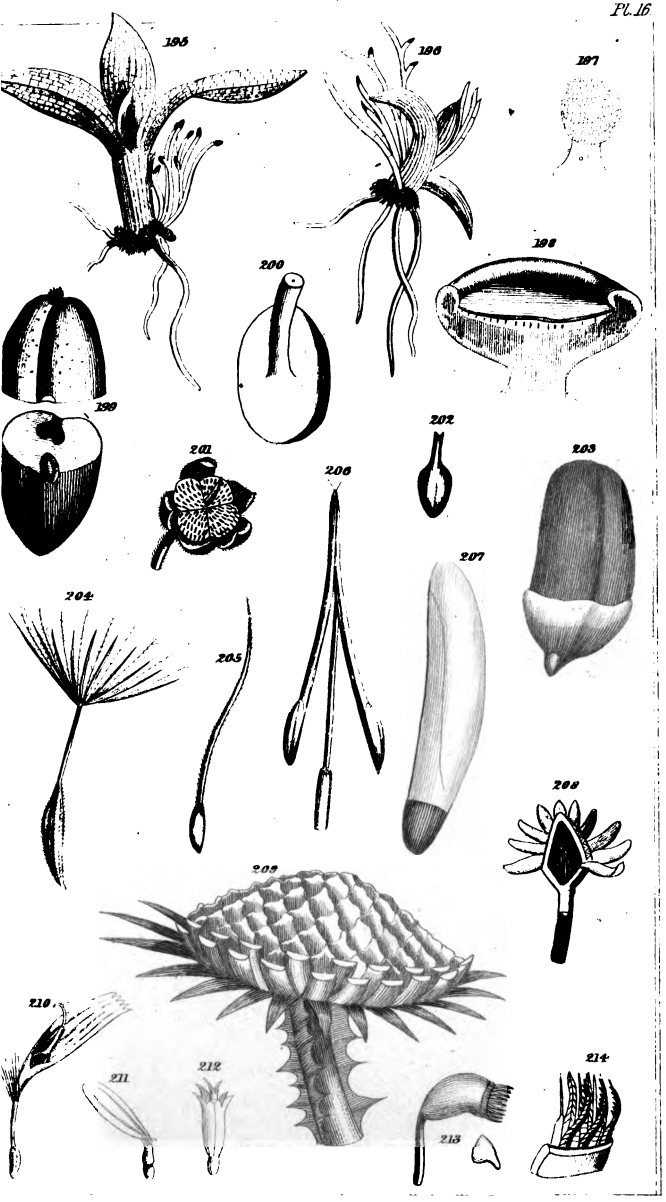

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